ENGINEERING

Dr. Philipp Describes Chemical Reactions Between Oil and Sulphur Dioxide

DETROIT-Some of the reactions that occur between lubricating oil and sulphur dioxide in a refrigerating system were described by Dr. L. A. Philipp, director of research for Kelvinator Corp., before Monday night's monthly session of the Detroit A.S.R.E. here. The subject "Thermodynamics of SO2-Oil Systems" has been studied for several years by the speaker in the Kelvinator laboratories, and is one on which he is considered a leading authority.

Two phases were treated in Monday night's talk; first, the effect of oil and refrigerant dissolving together; and second, the effect of various impurities on solutions of oil and refrigerant.

Mixtures of oil and sulphur dioxide are not similar to simple solutions like salt and water in which the salt is precipitated out under certain conditions, he pointed out at the beginning, because lubricating oil is a complex hydrocarbon substance and the hydrocarbons have a tendency to divide up instead of precipitating.

Being lighter in weight than sulphur dioxide, oil floats on top of the refrigerant. Dr. Philipp considered two layers, an "oil-rich" layer on top which is mostly oil, and an "SO₂-rich" layer just below which is predominately refrigerant.

He then showed lantern slides charting the solubility of oil and SO2 in these two layers under varying conditions. Most significant relationship in these charts was the fact that the solubility of SO_2 in oil increases with the pressure

Consequently, an oil of fairly high solubility may be used in a compressor with a low-pressure crankcase, while a compressor with a high-pressure crankcase should be lubricated with an oil of low solubility, he

pointed out. The speaker then diagrammed a number of typical household refrigeration systems on the blackboard, showing that oil problems can develop in compressor, low-side, or receiver.

Oil carried over to the receiver nust be dissolved in refrigerant in

M & E Panels Cabinets In 1934 Line

(Concluded from Page 1, Column 2) ing compressor. Sulphur dioxide is the refrigerant used.

Key specifications of the new Merchant & Evans line are produced

Model No.	Capacity (cu. ft.)	Shelf Area (sq. ft.)	Ice Cubes	Price
LE-4	4.07	8.95	45	\$117.00
D-406	4.07	8.95	56	128.00
D-507	5.0	12.45	84	169.75
P-507	5.0	12.45	84	191.50
D-607	6.17	12.85	112	201.50
P-607	6.17	12.85	112	232.50
P-803	7.41	15.15	140	272.50

ACE HARD RUBBER ROLLER SLIDING DOORS





Warping and swelling of doors is prevented by the use of a is prevented by the use of a reinforcing, laminated, ply-wood core, sealed entirely within Ace hard rubber doors.

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ANSUL

SULPHUR

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order to be returned through the sys-

tem to the compressor, he showed.

There are a number of ways to accomplish this, he said, and mentioned one which is a method of arranging the supply line from the condenser to enter the receiver below the liquid level so as to agitate the liquid, the agitation producing an emulsion in which the oil is carried off in suspension.

Oil in a dry expansion evaporator using an expansion valve is carried back to the compressor by entrainment in the high velocity gas, he reported.

In a flooded system, he said, the oil is suspended in the oil-rich and SO2rich layers on top of the liquid refrigerant, as previously mentioned. Here some oil is carried back by entrainment, while mechanical means are frequently used to return the remainder.

Discussing next the chemical stability of SO2 and oil, the speaker explained that SO2 is a potential oxidizing agent or reducing agent. That is, it can either add oxygen or remove oxygen from compounds with which it comes in contact.

Being a hydrocarbon, lubricating oil is a potential reducing agent (giving up hydrogen to available oxygen to form water), hence oil and SO2 have all the necessary elements to react in the formation of water, which can lead to very detrimental results in a refrigerating system.

An engineer can determine whether a reaction like that is thermodynamically possible, according to Dr. Philipp, by measurement of the free energy which would be liberated as heat, but the only way to tell if the reaction is probable is to try it out.

A few years ago the industry had trouble with carbonization of oil in commercial compressors, he related, a difficulty which was due to compressor discharge temperatures being too high. The problem was easily solved in water-cooled machines by carrying some of the cooling water from the condenser over to the compressor to cool its head.

In air-cooled condensing units, solution of the problem was not quite so simple. One effective development was the refrigerant-cooled head in which a quantity of liquid refrigerant was returned to the head to produce evaporative cooling. This reduced the valve-plate temperature and the superheat by 100° F., he said, and is quite satisfactory.

Refrigerant for cooling the compressor head isn't condensed in the regular condenser section, but is liquefied in a separate pass of the extended fin coil which comprises the air-cooled condenser, and is returned direct to the compressor head.

Discussing impurities in a system, he treated water first. In a dry expansion system, difficulties of erosion, etc. due to water are generally concentrated at the expansion valve which is the point of greatest refrigerant velocity, he said, while in a flooded system he opined that such troubles are less severe because the velocity is lower, with the result that water simply freezes at the lowest or coldest points in the evaporator.

Air in a system promotes the sludging of oil due to the oxidizing effect of air with its 20 per cent oxygen content, the speaker explained. A decidedly detrimental impurity in a refrigerating system is free sulphur, he said, but indicated that its reactions with hydrogen and carbon are too complex to be explained in the time allotted.

Lester Keilholtz, research engineer of Norge Corp., presided over the meeting and introduced the speaker. At the conclusion of the meeting, George Bright spoke briefly on membership and introduced as his guest, A. A. Burr, general manager of Western Union telegraph operations in

Complete refrigeration satisfaction

depends a lot upon the quality of the sulphur dioxide used. Specify Ansul, the sulphur dioxide in in-

dividually analyzed cylinders and be certain of dependable refriger-

ANSUL METHYL CHLORIDE

is now available in any quantity, spot or contract shipments. Every

container is laboratory tested to insure low moisture and acid content

ation always.

ANSUL CHEMICAL COMPANY

Kelvinator Features Food Filing System

(Concluded from Page 1, Column 5) frame, and these legs support the entire weight of the cabinet.

Chief among the new "convenience" features is the "food filing" system in-corporated in all models of the deluxe line. This development consists of three entirely separate refrigerated drawer-like compartments suspended from the lower shelf in the food compartment. Dairy foods, vegetables and leftovers are thus provided with classified and accessible storage space.

The vegetable compartment in this drawer system is an adaptation of the Kelvin crisper wherein a cold, moist atmosphere is maintained for the storage of leafy vegetables and greens.

Dairy Storage Space

Storage space for butter, eggs, and cheese is provided in the dairy section, the egg problem being met by a special rack (within the drawer) in

which eggs may be stored.

The third "file" compartment consists of three covered containers de-

signed for the storage of leftovers.

A new "five purpose" control is a feature of the lower-priced lines. This control consists of two toggle switches and a temperature selector knob. Provided by this refinement is start and stop overload protection, 12 freezing speeds, a vacation minimum operation setting, fast freezing start and automatic return from defrosting.

The defrosting arrangement cuts the condensing unit onto a defrosting cy-cle until the frost has melted from the

New Cabinet Design



Rounded corners, semi-concealed hinges, and integral leg construction distinguish 1934 Kelvinators.

coils and then provides for automatic return to normal temperatures. During the defrosting process, ice will melt from the cooling unit but the ice cubes in the freezing trays will remain frozen and adequate refrigeration temperatures will be maintained in the

food compartment. To simplify the process of removing ice cubes, an ice tray lifter has been devised to remove trays which have frosted tight to the sleeve in the cooling unit. In addition, "P" and deluxe models are equipped with a rubber ice cube tray which is built around a spring steel wire frame. A specially nandle enables the to bend the tray so as to spring out as many cubes as are desired.

4 Refrigerators in 1

"Four refrigerators in one" (four temperatures in the same cabinet), the much advertised feature of the '33 deluxe models, has been retained in the deluxe series this year.

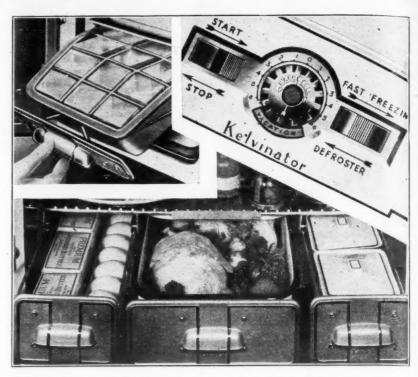
Other features of the new Kelvinators are balloon-type door gaskets, rubber shelf supports, porcelain-covered cooling units, high side float control, finger tip latch, dairy basket, hinged shelf, rearranging shelf, improved hardware, and (deluxe models only) a 72-oz. water pitcher.

Key specifications of the 1934 line are:

DELUXE SERIES

	DEHUAI		
Model No.	Capacity (cu. ft.)	Shelf Area (sq. ft.)	Cub
D2	6.58	12.94	81
D3	7.82	16.2	108
D4	9.03	18.42	108
D5	12.68	25.05	162
D6	15.25	30.63	189
D7	23,32	45.55	243
	"P" S	ERIES	
PA	5.13	10.66	81
PB	6.17	12.8	108
PC	7.36	14.43	108
PD	8.73	17.7	108
	"S" S	ERIES	-
SA	5.29	10.53	63
SB	6.35	12.5	84
SC	7.54	14.14	84
	"N" S	ERIES	
N	4.22	8.35	42
NA	5.29	10.53	63
NB	6.43	13.39	63

Kelvinator's New 'Convenience' Features



Shown above are the "dry cube tray" with handle release; five-purpose control panel; and food file, for dairy products, vegetables, and leftovers.

Changes Made on Grunow Compressor

(Concluded from Page 1, Column 1) pared with the mechanism in '33 models, the new unit has literally been placed on its side, then covered by a steel dome. The latter does not hermetically seal the compressor, but is merely a protection from dust and dirt collection. Shaft seal has been

A single shaft with four small vanes is the only moving mechanism in the compressor. There are just two bearings in the unit. Lubrication system combines gravity feed with spiralgroove, force-feed oiling. There are no bearings in the motor, rotor of which is mounted on the pump shaft. Windings, Grunow engineers say, are unaffected by oil or refrigerant.

Except for changes in the unit, the company's three-model standard line is practically the same as last year. The same is true of models 50-D and 54-D in the deluxe line, but in 65-D and 80-D of this line, the evaporator is chromium-plated and is located in the top-center of the food chamber.

In general appearance, the two new Grunow super deluxe models are similar to the two largest deluxe models, but have a number of sales features not available in the latter. Green trim is optional.

The SD models have tray releases. diamond-web shelves, a concealed interior light, three of McCord's flexible metal ice trays, a foot-pedal door opener, a 12-quart vegetable crisper. Evaporator is centered in these models, too.

Smallest of the super deluxe models is SD-65, with 6.5 cu. ft. of storage space. Its retail price, f.o.b. factory, is \$225. Other model is 80-SD, having an 8-cu. ft. net storage capacity, priced at \$245.

Deluxe prices are: 50-D, \$157.50; 54-D, \$175; 65-D, \$189.50; and 80-D, \$209.50 (all prices f.o.b. factory). Prices on standard models are unchanged for the present.

Grunow dealers will continue to use carrene's safety features as selling factory's recommendations. Inside" will be the keynote of national advertising. Newspaper advertising will be increased 50 per cent this year. "Bleed" pages will be used in the Saturday Evening Post.

Starting March 6, General Household Utilities will sponsor a series of radio broadcasts over 44 Columbia stations, featuring the Minneapolis Symphony Orchestra. Program will be broadcast every Tuesday at 9:30 p. m., eastern standard time.

WHAT IS COPELAND DOING?

So many friends of Copeland have written in recently reporting misleading rumors concerning the status of our organization that we believe a statement of condition and policy appropriate at

- COPELAND is a well-financed integral part of the refrigeration
- COPELAND is officered and staffed by experienced executives, engineers, technical and operative personnel with wide experience in refrigeration.
- COPELAND has a fixed policy of conservative production of models embodying tested principles.
- COPELAND is running its production lines on 18 models of commercial units rated from 100 lbs. to 2375 lbs. I. M. E. per
- COPELAND will announce, within two weeks, a new line of household refrigerators at popular prices.
- COPELAND is servicing, with approved parts, every Copeland unit produced by its predecessor company.
- COPELAND is proceeding with plenty of Money, Men and Materials to make the name a synonym for

"THE BEST IN ELECTRIC REFRIGERATION"

Live dealers and distributors are being allotted valuable territorial franchises. Write for details today.

COPELAND REFRIGERATION CORP., Mt. Clemens, Mich.



ELECTRIC

REFRIGERATION NETTENDED

WRITTEN TO BE READ ON ARRIVAL

ESTABLISHED 1926. MEMBER AUDIT BUREAU OF CIRCULATIONS. MEMBER ASSOCIATED BUSINESS PAPERS, MEMBER PERIODICAL PUBLISHERS INSTITUTE.

Vol. 11, No. 6, SERIAL No. 255 ISSUED EVERY WEEK

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DETROIT, MICHIGAN, FEBRUARY 7, 1934

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Service Policy Clause Delays Code Approval

Provisions Relating to Retail Sales Terms Are Eliminated

WASHINGTON, D. C .- The code of fair competition which is to govern the electric refrigeration industry still remains unacceptable to the National Recovery Administration after an open hearing Jan. 29 in which 116 typewritten pages of testimony were recorded, and a pre-hearing confer-ence in which an important compromise was reached, and a post-hearing conference in which inapplicable provisions dealing with terms of retail sales were thrown out.

Main obstacle to the acceptance of the code appears to be the failure of the two opposing camps within the industry and the NRA officials to reach an agreement satisfactory to all on the controversial "service policy and replacement cost" clause of the code, Article V (b).

The replacement problem will prob ably be settled at a post-hearing conference at some future date. It is probable that another meeting of the code committee of the Refrigeration Division of the National Electrical Manufacturers' Association will be called to discuss the matter or that it will be brought before the general meeting of the Refrigeration Division Feb. 20 in Cincinnati before a date for the post-hearing conference is set, according to Louis Ruthenburg, consultant to the Refrigeration Division.

However, as the result of the hearing and the conferences, certain clauses and provisions of the code have been deleted or altered. Chief changes which have been made are the following:

1. At the post-conference hearing held the same day that the hearing was adjourned (Jan. 29), the Refrigeration Division which proposed the code agreed to withdraw provisions of the code dealing with terms of retail sales on the theory that manufac-turers do not have the jurisdiction to control the operations of the inde-pendent retailer. Such provisions, therefore, if included in the code would apply only to branch sales operation, and would operate in such a way as to be detrimental to retailing by manufacturers' branch offices.

Retailers and wholesalers of electric refrigerators, the manufacturers be-(Concluded on Page 20, Column 3)

Kelvinator Corp. Ships 12,132 Units in January

DETROIT—Kelvinator Corp.'s ship-ments of household refrigerators in January totaled 12,132, an increase of 223 per cent over shipments in January of 1933, and brought total shipments for the first four months of the company's present fiscal year to a point 33 per cent ahead of the corresponding period of the previous year.

The company ended the month with unfilled orders 351 per cent in excess of the total on the books at the same time last year, according to H. W. Burritt, vice president in charge of

New Air Conditioners Shown in New York

By John T. Schaefer

NEW YORK CITY, Feb. 5 (Special Wire to ELECTRIC REFRIGERATION NEWS) -To learn the latest technical advances in air conditioning and to inspect new equipment for heating, cooling, cleaning, and humidifying, a congregation of heating and ventilating engineers from all over the country are gathered here this week.

The occasion is the 40th annual convention of the American Society of Heating and Ventilating Engineers at the Biltmore hotel, together with the International Heating and Ventilating Exposition at the Grand Central

Today's technical sessions were devoted entirely to heating problems. Programs for tomorrow and Wednesday will offer some new data in com-fort cooling, while Thursday's session includes an inspection trip to the huge (Concluded on Page 20, Column 1)

Dealers Win Prizes In Display Contest

NEW YORK CITY-Winners in the Electric Refrigeration Bureau's Christmas window display contest were announced last week, and cash prizes totaling \$700 were sent to them. There were 340 entries from 40 states in the competition.

For dealer windows of less than 100 sq. ft., the first prize of \$100 was awarded to the Emmons-Hawkins Hardware Co. (Kelvinator) in Huntington, W. Va. Second prize, \$50, went to the G-E dealership of Fowler, Dick & Walker, Inc., of Binghamton, N. Y.

Tull & Gibbs, Inc., Kelvinator dealer in Spokane, Wash., won first prize of \$100 for dealer windows of more than 100 sq. ft., and second prize of \$50 was (Concluded on Page 20, Column 1)

New Vice President



A. E. ALLEN

Westinghouse Appoints Allen Chief of Work At Mansfield

NEW YORK CITY-A. E. Allen has been elected vice president of Westinghouse Electric & Mfg. Co. in charge of the merchandising division in Mansfield, Ohio, which is now an operation distinct from other divisions.

His appointment was announced last week by A. W. Robertson, president of Westinghouse, at the close of a meeting of the board of directors here. Duties of the new position call for supervision of all the division's sales, manufacturing, and engineering activities.

Mr. Allen has been with Westinghouse since 1902. Until 1925 he was associated with Westinghouse Electric & Mfg. Co., but in that year was made general manager of the Westinghouse

Minneapolis-Honeywell Holds Sales Clinics

MINNEAPOLIS-Reversing the procedure usually followed in its annual sales and engineering "clinics," the Minneapolis-Honeywell Regulator Co. of this city has just concluded a series of these meetings in which factory officials went into the field.

First of the conferences was held in Chicago Jan. 24, with others in Toronto, Boston, Philadelphia, and New York City following. Business in 1933 was 23 per cent greater than in 1932.

Universal Cooler Gets Million Dollar Order From Mongtomery Ward

Large Mail Order House Contracts to Buy Universal Units

DETROIT—Universal Cooler Corp. has contracted to supply Montgomery Ward & Co. of Chicago with their refrigeration requirements for the 1934 season. Complete systems will be assembled and shipped from the Universal plant. G. M. Johnston, president of Universal Cooler Corp., states that approximately one million dollars is involved in this contract.

Bard Is New Director

DETROIT—Ralph A. Bard, well known financier of Chicago, has been elected a director of Universal Cooler Corp., according to an announcement by G. M. Johnston, president of the

Westinghouse Gets \$500,000 Order

MANSFIELD, Ohio-Merchandising division of Westinghouse Electric & Mfg. Co. here last week received an order from the Interstate Power Co., with headquarters in Dubuque, Iowa, for more than \$500,000 worth of electric refrigerators and ranges.

Interstate Power Co., with its associated companies—Central Light and Power Co. and Central States Power and Light Corp.—has just launched an intensive four-year program of electrical equipment merchandising to increase current consumption.

The order called for 2,500 electric refrigerators and 1,000 ranges. Models BG-64 and BT-64 were the ranges selected, both being of the four-burner, 16-in. oven type. Refrigerators purchased included 5.2-cu. ft. and 7.5-cu. ft. models, say Westinghouse officials. Immediate shipment was asked on

most of the refrigerators and ranges. The three utilities have employed 50 special supervisors and salesmen to (Concluded on Page 20, Column 5)

Universal Cooler Doubles Floor Space; Installs New Machinery

DETROIT—By doubling its factory floor space and installing a bank of new production machinery, Universal Cooler Corp. has practically tripled its facilities for manufacturing household and commercial electric refrigerators. The expansion was made at its present location at Green and Melville Sts. in taking over 60,000 sq. ft. of additional floor space vacated by sub-lessees, giving a total of 118,700 sq. ft. for Universal production

purposes.
G. M. Johnston, president of the company, states that by March 1 the factory will be ready to operate at its peak capacity of 600 household refrigerators per day, and from 300 to 400 commercial condensing units daily. This production can be increased materially by employing three working shifts.

Production Lines Systematized

The expansion move brings a number of compressor machining operations into the Universal Cooler plant which were formerly done by outside suppliers. This, together with the fact that plant equipment has been revised and makes for better production control, according to Universal Cooler officials.

Also the numerous manufacturing operations and assemblies are made in natural progression, from the raw materials receiving room and machine shop where production starts at one end of the plant, to the testing department at the other end. Some 4,000 ft. of conveyors are used in the various assembly operations.

Making All Compressor Parts

All standard parts used in Universal Cooler compressors are now made in its own machine shop, where new lathes, drill presses, shapers, tools, and fixtures have been provided. Castings, forging, and other parts to be machined come into this section at one corner of the building, and pro-

ceed down an aisle along one wall.

The machine tools are located so that the parts proceed directly across (Concluded on Page 20, Column 2)

Candid Camera Gets Some Informal Scenes on G-E Cruise and at ABC Meeting



(1) Action! Camera! Newsreel men on shipboard "shoot" a group of G-E Toppers on their Bermuda trip. (2) Rex Cole's "Ham" Campbell and P. B. Zimmerman descend from the bridge. (3) Sunning. (4) The captain and "Zim." (5) A Topper slips George Kobick the word that there's a little gathering . . . Mrs. Ralph Cameron in the foreground.













(1) Ready for business—Joe Hirsch, vice president in charge of sales, and President J. H. Hirsch of Automatic Burner Corp. await arrival of refrigeration distributors. (2) D. A. Patterson, Milton Rosenow, and Roy Knipschild of Rosenow Corp. look with satisfaction on the displays they created for ABC. (3) "J. H." tells 'em. (4) Clarence Ackley, Binghamton, Joe Hirsch, and G. J. Timmerman, Dubuque. (5) J. J. Hahn, Rochester, Treasurer E. A. Weil, and J. J. Dougherty of Milwaukee. (6) R. E. Caldwell, and J. G. Comer of El Paso listen to W. H. Doerman.

NRA HEARS ARGUMENTS ON REFRIGERATION CODE

Committee Submits Code as Revised At Pre-Hearing Conference

The proceedings at the hearings on the Supplemental Code of Fair Competition for the Refrigeration Division of the Electrical Industry are reported in the following stenographic report.

Hearing on Supplemental Code of Fair Competition for the Refrigeration Division of Electrical Industry

The above-entitled matter came on for hearing at 10:00 o'clock, a. m., at Room 3204 Commerce building, Assistant Deputy Administrator J. G. Cowling presiding.

There were present also:

Of the Industrial Advisory Board: B. A. Brennan.

Of the Labor Advisory Board: Dr. W. L. Schurz.

Of the Consumers' Advisory Board: W. H. Edmonds.

Of the Planning and Research Division: Peter Stone.

Of the Legal Division: E. P. Delaney.

Proceedings

Assistant Deputy Cowling: The hearing on the proposed Supplemental Code of Fair Competition for the Refrigeration Subdivision of the Electrical Industry will now come to order.

Mr. Delaney of the legal department will outline the form of procedure in these public hearings.

Statement of Mr. E. P. Delaney Representing the Legal Division

Mr. Delaney: These hearings, as most of you understand, are not judicial investigations, but, more strictly speaking, they are legislative investi-gations in the nature of administrative inquiries for the purpose of adequately informing the Administrator of the National Recovery Administration of the facts upon which he may exercise administrative authority.

While the law lays down no particular regulations or requirements for public hearings upon codes of fair competition by individuals or groups, and there is no statutory control over procedure, it should be understood that no representative of private interests favoring or opposing a code has any legal right to control or direct the proceedings in these hearings which are at all times subject to the sole control of the deputy administrator in charge, acting in conformity with the general regulations covering specific instructions as given by the

It will, however, be the purpose of the deputy administrator to give all persons interested every opportunity to present evidence in support of the code, or any objections to it, and the objections or suggestions may relate either to modifications of certain parts of the code or the deletion or addition of other parts.

But, in order to provide for a formal, orderly handling of these hearings, the following procedure has been

Prior to the opening of this hearing, appearances should be filed by all those who are present on cards to be furnished by the deputy administrator. and it is necessary also that that section or sections which you propose to discuss should be mentioned. Those persons will be heard in such order as shall be announced by the deputy ad-ministrator, and all parties present will be required to confine their evidence in the first instance to either oral or documentary evidence to the specific proposals that they will wish to make.

Oral arguments will not be received on matters, unless those matters are subsequently set down for oral argu-

Every one speaking is presumed to be a witness, and the control of that evidence will rest entirely with the deputy administrator, witnesses being presented by questions from him and no one else unless he shall so direct.

It is the purpose of this regulation to avoid unduly lengthening and unnecessarily extending the examination of witnesses by counsel for the parties in interest, and under no circumstances will any representative of opposing interests be permitted to cross examine a witness. There is no objection, however, to lawyers or specialists in any particular line appearing for their clients, but it must be understood that they are appearing simply as witnesses and not as counsel arguing a lawsuit. No arguments will be permitted on any legal question. If there are any legal questions involved upon which any one wishes to present a brief, he may do so with the consent of the deputy administrator.

Assistant Deputy Cowling: Mr. Howard E. Blood, chairman of the code committee, will present the proposed Supplemental Code.

Original Code Changed At 2 Conferences

Mr. Blood: Mr. Chairman, understanding is, in view of the fact that the first draft of this code was presented quite some weeks ago, and that since that time there have been two conferences held in Washington, as a result of which certain changes have been made in the code, it might be your wish to have the code read as amended at the last conference that we held, and then you might permit our representative also to read the amendments to it which have been, as I understand, in principle agreed upon by the industry in conference with you.

If that is the procedure, and it is agreeable to you, Mr. Ruthenburg will

Printed Supplemental Code Placed in Records

Assistant Deputy Cowling: I think that we will have, first of all, to make the printed Supplemental Code a part the record, and then take the amendments as they come up.

Mr. Blood: Would you like to have it read, in order to do so, or just simply make it a part of the record?

Mr. Delaney: Let the record show that the proposed Supplemental Code, the printed copy, is read into the rec-ord. Then you can proceed with the hearing of your proposed changes.

**Penutu Cowling: This

Assistant Deputy Cowling: This proposed code is printed by the United States Government Printing Office Registry No. 1308-10 A, and it is submitted for the record.

(The proposed Supplemental Code, as printed by the Government Printing Office, is as follows:

Article I-Purpose

To effectuate the policy of Title I of the National Industrial Recovery Act, the following provisions are submitted, pursuant to the provisions of Article XIV of the Basic Code of Fair Competition for the Electrical Industry, approved by the President Aug. 1933, as a Supplemental Code of Fair Competition for the Refrigera-tion Subdivision of the Electrical Industry, and upon the eleventh day after their approval by the President shall, together with the provisions of said Basic Code and any modifications thereof, or additions or supplements thereto, hereafter made, be the standard of fair competition for the Refrigeration Subdivision of the Electrical Industry.

Article II-Definitions

The term "Refrigeration Subdivision of the Electrical Industry" as used herein is defined to mean the manufacture for sale of electrical household refrigerators and such commercial electric refrigeration as is not within the control of other duly approved codes. The term "person" as used herein shall include natural persons, partnerships, associations, trusts, trustees, trustees in bankruptcy, receivers, and corporations. The term "employer" as used herein shall include every person promoting, or actively engaged in the manufacture for sale of the products of the Refrigeration Subdivision of the Electrical Industry as herein defined. The term "effective date" as used herein is defined to be the eleventh day after this Supplemental Code shall have been approved by the President of the United States.

Article III-General Provisions

(a) Employers are responsible for the enforcement of the provisions of this Code where their branches and agents are concerned, and shall not cooperate in the violation of this Code by selling to or through any distributor, dealer, or other independent type of distribution outlet who or which does not agree to comply with the applicable provisions of this Code. This Article shall be in effect until the approval by the President of a code for such distributor.

(b) Employers shall refrain from fraudulent and deceptive practices, including false or misleading advertising (more specifically covered in Article IV), mislabeling, and misbranding.

(c) Employers shall refrain from misappropriation of competitors' business by inducing breach of consumers' sales contracts, and shall refrain from maliciously enticing away employes of competitors for the purpose or effect of unduly hampering, injuring, or embarrassing competitors in their busi-

(d) Employers shall refrain from

willful or malicious defamation of competitors and from disparagement of competitors' products.

(e) Employers shall not give secret rebates or discounts, free special services or exorbitant advertising allowances, and shall not consign merchandise to distributors and direct dealers, and shall use their best efforts to prevent distributors and direct dealers consigning merchandise to dealers and subdealers under their control.

(f) Employers shall refrain from commercial bribery in the form of gratuities to salesmen or employes of distributors and dealers, or to offers of rewards or premiums to purchasers of products. This clause shall not be interpreted in such manner as to prohibit prize contests openly conducted among salesmen.

(g) The circularization of threat's of suit for infringement of patent or trade-mark among customers of competitor, not made in good faith and for the purpose of harassing and intimidating customers is an unfair trade practice.

Article IV-Advertising and Sales Promotion

Advertising and sales promotion, as dealt with in this Code shall have the broadest possible interpretation. The terms shall apply to magazine and newspaper advertising, bill boards, radio broadcasting, house organs, catalogs, direct mail material, and to all forms of advertising and sales promotional activities in verbal or printed presentation.

(a) No representation of a character calculated to mislead the uninformed or casual reader shall be used. All statements made in advertising or sales promotion shall be complete and so phrased as to convey to the casual and uninformed reader the full and complete facts.

(b) Advertising and sales promotion shall contain no representation of a character. Positive truthful statements may be made concerning the advantages of the product, features of the product, company, and its methods of doing business. No misrepresentation, however, shall be made concerning the disadvantages of other products, features of products, or con-cerning competitors' methods of doing business. Statements in advertising or sales promotion regarding competitors, competitors' methods of doing business, or competitors' products may be made when the employer is prepared to substantiate legally such state-The use of inference or innuendo is strictly prohibited under this Code.

(c) Advertising and sales promoactivities offering products which are not intended to be openly and freely sold, with the object of attracting customers for the purpose of selling other products, shall be held in violation of this Code.

Used competitive shall not be accepted in partial pay-ment for the products of the industry for sums greater than will be realized in the resale of such used products or apparatus, and allowances made in exchange for such apparatus shall take into account the costs of reconditioning and reselling.

(e) Neither direct nor indirect use shall be made of competitive apparatus in connection with sales promotion or advertising.

(f) Whereas advertising and sales promotion which deals with refrigerants tend to create in the minds of the public an erroneous impression of the hazards involved in the use of various refrigerants, and whereas such hazards are in fact negligible, any tising or sales promotion which may directly or indirectly create such impression shall be held in violation of this Code.

Article V-Warranty and Service Policy

(a) Employers shall conform without deviation to the following form of warranty:

"The Corporation warrants to the original purchaser the refrigerating equipment sold by it and all parts thereof to be free from defects in material and workmanship under normal use and service. The Corporation's obligation under this warranty shall be limited to repairing or replacing any part of said refrigerating equipment which proves thus defective within one year from date of original installation, and which the Corporation's examination shall disclose to its satisfaction to be thus defective. This warranty is in lieu of all other warranties expressed or implied and of all other obligations or liabilities on the part of the Corporation, and it neither assumes, nor authorizes any other person to assume for it, any other obligation or liability in connection with the sale of said refrigerating equipment or any part thereof. This warranty will not apply to said refrigerating equipment or any part thereof which has been subject to any accident, alteration, abuse, or misuse.

"The Term 'original purchaser' as used in the foregoing warranty shall be deemed to mean that person, firm, association, or corporation for whom the refrigerating equipment referred to therein is originally installed; or the bona fide assignee of that person, firm, association, or corporation."

(b) Employers may develop in-dividual plans for providing replacement units in case of complete failure after the expiration of the warranty, providing that amounts not less than the following schedule shall be billed to the customer and that such schedule of charges shall not be included as part of the selling price of the original equipment, and shall not be billed nor charged for in advance of such replacement:

For replacement in the 2nd year \$ 7.50 For replacement in the 3rd year 12.50 For replacement in the 4th year 17.50 For replacement in the 5th year 20.00

(c) Advertising and sales promotion shall contain no representation which would cause any person to assume that an extension of the uniform warranty is intended, nor shall any representation be made in advertising or sales promotion which will in any way tend to confuse such unit replacement

plans with the warranty.

(d) In any case in which an employer's policy with respect to unit replacement is referred to in advertising or sales promotion, such advertising and sales promotion shall state clearly the amount which has been added to the complete unit price to cover the average cost of unit replacement.

Article VI-Terms

(a) Household refrigeration shall in no case be sold without a minimum cash payment equivalent to ten (10%) per cent of the installed price of the apparatus, and time payments in connection with such sales shall in no case be extended beyond twenty-four (24) months unless the unpaid balance exceeds \$240, in which case the time payments shall in no case be extended beyond thirty (30) months. It is further provided that in no case shall monthly payments on any deferred payment contract for one or more household refrigerators be less than

(b) Commercial refrigeration equipment shall in no case be sold without a minimum cash payment equivalent to twenty (20%) per cent of the installed price of the apparatus, and time payments in connection with such sales shall in no case be extended beyond twenty-four (24) months, unless the unpaid balance exceeds \$2.400. in which case time payments shall in no case be extended beyond thirty (30)

(c) Interest and carrying charges, according to scales established by reputable persons, firms, or corporations regularly engaged in the purchase of commercial paper, shall in all cases be collected in connection with deferred payments.

(d) Sales made by employers to their outlets shall, whenever feasible, be subject to collection by sight drafts attached to bills of lading. Open account shall in no case be extended by employers to their outlets beyond the 20th prox. Employers shall collect interest charges at an annual rate of not less than six (6%) per cent on all overdue accounts.

(e) The provisions of this Article shall apply to all forms of deferred payment plans, including rental pur-

Article VII-Enforcement

(a) Upon receipt of written complaint filed by an employer, the Supervisory Agency of the Refrigeration Subdivision of the Electrical Industry shall cause an investigation to be made for the purpose of establishing the facts. If such investigation estab-lishes facts from which there is a presumption that this Code has been violated, the offending employer shall be requested by registered letter from such Supervisory Agency to refrain from such offending practice; and if that employer repeats the offense, the matter may be referred through the proper channels to the Federal Administrator for such action as seems to him proper in the circumstances.

When investigations are made or authorized by the Supervisory Agency of the Refrigeration Subdivision, such investigation shall be made by a person or persons not employed by any member of the industry, whenever such investigation requires facts to be obtained which should not be made known to competitive organizations.

Article VIII—Amendments

(a) Any provision of this Supplemental Code may, with the approval of the President of the United States, be modified or eliminated as changed circumstances or experience may indicate. Study of the trade practices of the Refrigeration Subdivision of the Electrical Industry will be continued by the Supervisory Agency for this Subdivision heretofore appointed by the Board of Governors of National Electrical Manufacturers Association for approval from time to time amendments of, or additions to, this Supplemental Code applicable to this Sub-

Article IX-Status Prior to Effective Date

(a) Prior to its approval by the President, the applicant for this Supplemental Code may at any time change or modify any provisions of, or may withdraw this Supplemental

(b) The applicant will not be deemed to have consented to any change or modification of this Supplemental Code which may be affected by the President's order of approval unless such change or modification is sub-mitted to the applicant and consented to by the applicant.

Ruthenburg Presents Revised Code

Mr. Blood: May Mr. Ruthenburg now read the amended code?

Statement of Mr. Louis Ruthenburg Representing the Refrigeration Division, National Electrical Manufacturers Association

Mr. Buthenburg: Mr. Deputy Administrator, the following changes I will refer to by reference to the printed code. In Article I, Purposes, after the word

"made," in the last line but two . . .

Mr. Delaney: May I suggest that this has been almost a complete revision of

many of these articles, that you start to read the code into the record? Mr. Buthenburg: The complete revised

Mr. Ruthenburg: Very well.

Article I-Purpose

To effectuate the policy of Title I of the National Industrial Recovery Act, the following provisions are submitted, pursuant to the provisions of Article XIV of the basic Code of Fair Competition for the Electrical Industry, approved by the President Aug. 4, 1933, as a supplemental code of fair competition for the refrigeration subdivision of the electrical industry, and upon the eleventh day after their approval by the President, shall, together with the provisions of said basic code and any modifications thereof, or additions or supplements thereto, hereafter made, be made a part of and be the standard of fair competition for the refrigeration subdivi-sion of the electrical industry.

Assistant Deputy Cowling: Does any-body wish to be heared on Article I? If not, we will go to Article II.

Mr. Reed: Are there available copies of these proposed changes?

Mr. Buthenburg: There is a very limited number of them.

Mr. Reed: I have not seen them in this Assistant Deputy Cowling: There are one or two around here that we might be

able to get. Mr. Reed: I thought that perhaps there

Mr. Reed: I thought that pernaps there were plenty of them.
Mr. Buthenburg: Mr. Administrator, I will be glad to emphasize the changes, if you think that that is desirable.
Assistant Deputy Cowling: I think that

that would be desirable.

Mr. Ruthenburg: The only change in

the clause that I just read are the words "be made a part of and," those words being inserted. Coming next to Article II, Definitions,

there is no change in this from the printed form, but I will read it, however.

Article II-Definitions The term "Refrigeration Subdivision of

the Electrical Industry," as used herein, is defined to mean the manufacture for sale of electrical household refrigerators and such commercial electric refrigeration as is not within the control of other duly approved codes. The term "person," as used herein, shall include natural persons, partnerships, associations, trusts, trustees, trustees in bankruptcy, receivers, and corporations. The term "employer," as used herein, shall include every person proportions. promoting, or actively engaged in, the manufacture for sale of the products of the Refrigeration Subdivision of the Electrical Industry, as herein defined. The term "effective date," as used herein, is defined to be the eleventh day after this Supplemental Code shall have proved by the President of the United

Assistant Deputy Cowling: I think that probably the best idea would be to read through the whole thing, and then we will go back.

It looks now as if we will have to have

our pictures taken. (After a brief recess:)

Assistant Deputy Cowling: Will you proceed now with Article III?

Mr. Ruthenburg: Article III deals with General Provisions, and clause (a) as it appears in the printed form has been deleted in its entirety, and the new clause (a) reads as follows:

Article III—General Provisions

(a) Employers shall refrain from fraud-ulent and deceptive practices, including false or misleading advertising (more specifically covered in Article IV), mis-labeling, and mis-branding.

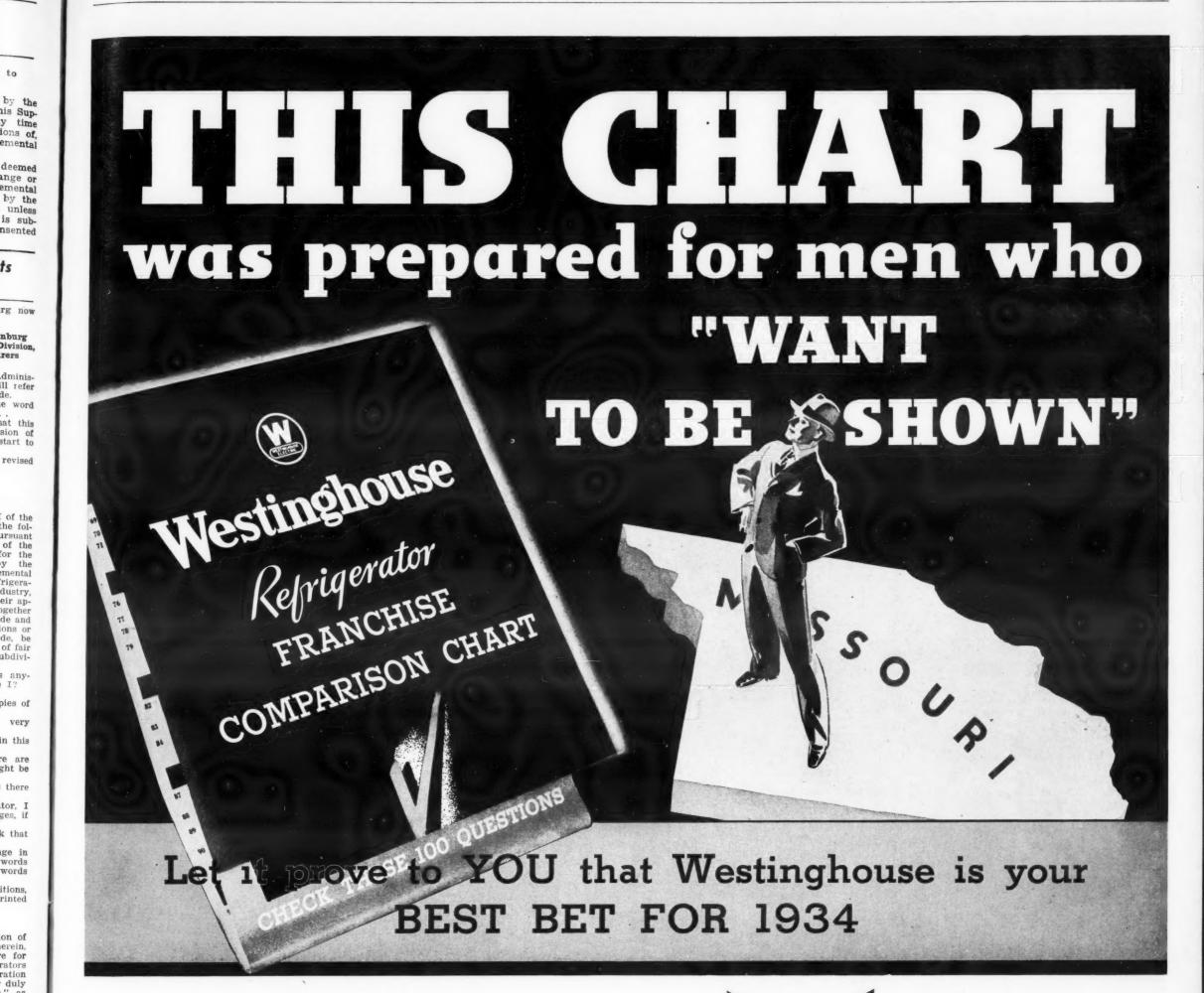
(b) Employers shall refrain from misappropriation of competitor's business by inducing breach of consumers' sales contracts and shall refrain from misiciously.

tracts, and shall refrain from maliciously enticing away employes of competitors for the purpose or effect of unduly hampering. injuring, or embarrassing competitors in

(c) Employers shall refrain from willful or malicious defamation of competitors and from disparagement of competitors' products.

(d) Employers shall not give secret rebates or discounts, free special services or exorbitant advertising allowances and shall consign merchandise to distributors and direct dealers, and shall use their best efforts to prevent distributors and direct dealers consigning merchandise to dealers and sub-dealers under their con-

Clause (e) as it appears in the printed (Continued on Page 4, Column 1)



You've found it pays in business to get facts and proof. That being the case, you will find the "Franchise Comparison Chart" gives you exactly the information you want in laying your plans for a profitable electric refrigeration year in 1934. A few minutes of study, in the privacy of your own office, will reveal why the Westinghouse franchise offers you greater volume . . . and more profit . . . at lower selling cost.

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If you want facts as opposed to unsupported claims . . . if you want profits instead of promises . . . send for this chart today. There are reasons why Westinghouse sales have shown average yearly increases of 50% every year since the Westinghouse Dualautomatic Refrigerator was first put on the market. Why not find out what they are? There are many important advantages

in Westinghouse advertising, sales promotion, education and general selling assistance. Why not add up their cash value to you? There is good-will as well as profit in a service-free, super-quality line of refrigerators such as Westinghouse offers in its twelve handsome "Master Series" models. The "Franchise Comparison Chart" places a definite value on every factor that you should consider for 1934. It is a fair, honest and accurate guide to profit.

Regardless of your present plans, let us send you the "Franchise Comparison Chart." A request on the coupon below or your own letterhead will bring it. Since it costs nothing, and may add something to your net profit for 1934, you have everything to gain and nothing to lose. Send NOW for the "Franchise Comparison Chart!"



DO YOU KNOW

... that the Westinghouse "Built-in Watchman" thermostat eliminates service calls caused by the blowing-out of fuses or the trip-ping of circuit breaking devices, conditions?

... that Westinghouse combines the advantages of forced-draught cooling with a top-mounted, her-metically-sealed mechanism?

... that approximately 300 rigid tests are required during the pro-duction of every Westinghouse Dual-automatic Refrigerator?

There are over 100 important facts to consider in selecting a money-making electric refrigerator franchise for 1934. The Franchise Comparison Chart proves Westinghouse leadership in an overwhelming majority of these points.

estinghouse

The outstanding Refrigerator Franchise Opportunity of 1934

Westinghouse Electric & Mfg. Co.,

Refrigeration Division (ERN 2-7), Mansfield, O.

We're willing to be shown. Send the Franchise Comparison Chart — without cost or obligation of any sort.

Address.....



Revised Nema Code Eliminates Clause Dealing with Refrigerant Claims

(Continued from Page 2, Column 5) code has been deleted in its entirety, and

code has been deleted in its entirety, and the following substituted for it:

(e) Employers shall not give, permit to be given, or directly offer to give anything of value for the purpose of influencing or rewarding the action of any employe, agent, or representative of another in relation to the business of the employer of such employe, the principal of such agent or the represented party. Commercial bribery provisions shall not be construed to prohibit prize contests openly conducted among salesmen.

Clause (f) is revised to read as follows:

(f) Employers shall not give, permit to

(f) Employers shall not give, permit to be given, or directly offer to give rewards or premiums to actual or to prospective purchasers of their products. This clause shall not be construed to prohibit prize contests openly conducted among actual or properties purchasers of such products. prospective purchasers of such products.
Clause (g) reads as follows:
(g) The circularization of threats of suit

for infringement of patent or trade mark among customers of a competitor, not made in good faith and for the purpose of harassing and intimidating customers is an unfair trade practice.

Article IV-Advertising and Sales Promotion

Next is Article IV, Advertising and

Next is Article IV, Advertising and Sales Promotion.

That introductory paragraph has been changed by the introduction of the words "without limitation" after the words "shall apply," at the end of the second and the beginning of the third sentence.

As revised, it will read:

Advertising and sales promotion, as dealt with in this code, shall have the broadest possible interpretation. The terms shall apply without limitation to magazine and newspaper advertising, billboards, radio broadcasting, house organs, boards, radio broadcasting, house organs, catalogues, direct mail material, and to all forms of advertising and sales promo-tional activities in verbal or printed

Then Paragraph (a) reads: (a) No representation of a character calculated to mislead the uninformed or casual reader shall be used. All statements made in advertising or sales promotion shall be complete and so phrased as to convey to the casual and uninformed reader the full and complete facts.

Clause (b), as printed, is deleted in its entirety, and the new Clause (b) reads as

(b) No false, untrue, misleading or derogatory statements shall be made, either directly or by inference, in any advertising or sales promotion concerning the product advertised or any competitive product, nor shall any statement be made, the effect of which will be to mislead the public with respect to other products.

Clause (c) reads:
(c) Advertising and sales promotional activities offering products which are not intended to be openly and freely sold, with the object of attracting customers for the purpose of selling other products, shall be held in violation of this code.

Clause (d) reads:

(d) Used apparatus shall not be accepted in partial or complete revenue or in every large.

in partial or complete payment or in ex-change for the products of the industry for sums greater than will be realized in the resale of such used products or apparatus, and allowances made in exchange for such apparatus shall take into account the costs of reconditioning and reselling, provided, however, that this clause shall not be construed to prevent or restrict employers in the acceptance of used apparatus of their own manufacture in partial or complete payment or in exchange for new apparatus of their own manufacture, when such used apparatus shall have proven to be defective within the meaning of Article V.

proven to be defective within the meaning of Article V.

The clause that I have just read is amended by the deletion of the word "competitive," the second word in the printed form, and by the insertion of the word "partial" of the words "or complete."

Then it is revised by the insertion of the clause beginning with "however, that this clause shall not be construed to prevent or restrict employers in the accept-

vent or restrict employers in the accept-ance of used apparatus of their own man-ufacture in partial or complete payment or in exchange for new apparatus of their own manufacture, when such used apparatus shall have proven to be defective within the meaning of Article V."

Clause (e) reads:

(e) Neither direct nor indirect use shall

be made of competitive apparatus for comparative purposes in connection with sales promotion or advertising. The phrase "for comparative purposes"

Clause (f), which appears in the printed

code, has been deleted in its entirety.
Coming next to Article V, Warranty and Service Policy:

Article V-Warranty and Service Policy

(a) Employers shall conform without deviation to the following form of war-

Corporation warrants to the original purchaser the refrigerating equipment sold by it and all parts thereof to be free from defects in material and workmanship under normal use and service. The Corporation's obligation under this warranty shall be limited to repairing or replacing any part of said refrigerating replacing any part of said refrigerating equipment which proves thus defective within one year from date of original installation, and which the Corporation's examination shall disclose to its satisfaction to be thus defective. This warranty is in lieu of all other warranties expressed or implied and of all other obligations or liabilities on the part of the Corporation, and it neither assumes, nor authorizes any and it neither assumes, nor authorizes any other person to assume for it, any other obligation or liability in connection with obligation or liability in connection with the sale of said refrigerating equipment or any part thereof. This warranty will not apply to said refrigerating equipment or any part thereof which has been subject to any accident, alteration, abuse, or

'The term 'original purchaser,' as used the foregoing warranty shall be ned to mean that person, firm, association, or corporation for whom the refrigerating equipment referred to therein is originally installed; or the bona fide assignee of that person, firm, association, or

(b) Employers may develop individual plans for providing replacement units in case of complete failure after the expira-

tion of the warranty, providing that amounts not less than the following schedule shall be billed to the customer and that such schedule of charges shall not be included as part of the selling price of the original equipment, and shall not be billed nor charged for in advance

of such replacement:

For replacement in the 2nd year... \$ 7.50

For replacement in the 3rd year... 12.00

For replacement in the 4th year... 17.50

For replacement in the 5th year... 20.00

Advertising and sales promotion replacement in the 5th year... 20.00
Advertising and sales promotion contain no representation which

would cause any person to assume that an extension of the uniform warranty is intended, nor shall any representation be made in advertising or sales promotion which will in any way tend to confuse such unit replacement plans with the

warranty.
(d) In any case in which an employer's policy with respect to unit replacement is referred to in advertising or sales pro-motion, such advertising and sales promotion shall state clearly the amount which has been added to the complete unit price to cover the average cost of unit replace-

There is no change in Article V from

Article VI-Terms

Article VI, Terms, reads:
(a) Household refrigeration shall in no case be sold without a minimum cash payment equivalent to ten (10%) per cent of the installed price of the apparatus, and time payments in connection with such sales shall in no case be extended beyond twenty-four (24) months unless the unpaid balance exceeds \$240.00, in which case the time payments shall in no case be extended beyond thirty (30) months. It is further provided that in no case shall monthly payments on any deferred payments. ment contract for one or more household refrigerators be less than \$5.00.
(b) Commercial refrigeration equipment

shall in no case be sold without a mini-mum cash payment equivalent to twenty (20%) per cent of the installed price of the apparatus, and time payments in con-nection with such sales shall in no case be extended beyond twenty-four (24) months unless the unpaid balance exceeds \$2,400, in which case time payments shall in no case be extended beyond thirty (30) months.

(c) Interest and carrying charges, according to scales established by recognized

cording to scales established by recognized reputable persons, firms or corporations engaged in the purchase of commercial paper, shall in all cases be collected in connection with deferred payments.

That clause has been amended by the insertion of the word "recognized" before the word "reputable," and by the deletion of the word "regularly" after the word "corporations."

(d) Sales made by employers to their

(d) Sales made by employers to their outlets shall, whenever feasible, be subject to collection by sight drafts attached to bills of lading. Open account shall in no case be extended by employers to their outlets beyond the 20th prox. Employers shall collect interest charges at an annual rate of six (6%) per cent on all overdue

In the last clause read, the change is to specify an interest rate of 6 per cent, rather than not less than 6 per cent. (e) The provisions of this article shall apply to all forms of deferred payment plans, including rental purchase plans.

Article VII-Enforcement

Now, Article VII, Enforcement:

(a) Upon receipt of written complaint filed by an employer, the Supervisory Agent of the Refrigeration Subdivision of the Electrical Industry shall cause an investigation to be made for the purpose of establishing the focts. If such investigation establishing the facts. If such investiga-tion establishes the facts from which there is a presumption that this code has there is a presumption that this code has been violated, the offending employer shall be requested by registered letter from such Supervisory Agency to refrain from such offending practice; and if that em-ployer repeats or continues the offense, the matter may be referred through the proper channels to the Federal Adminis-trator for such action as seems to him proper in the circumstances. proper in the circumstances.

When investigations are made or auorized by the Supervisory Agency of the Refrigeration Subdivision, such investiga-tion shall be made by a person or persons not employed by any member of the industry, whenever such investigation requires facts to be obtained which should not be made known to competitive organizations

The only change in the article just read is the insertion of the words "or continues," in the phrase, "if that employer repeats or continues the offense."

Article VIII-Modifications

(a) This code and all the provisions are expressly made subject to the right of the President, in accordance with the provisions of subsection (b) of Sec-tion 10 of the Act, from time to time to cancel or modify any order, approval, license, rule, or regulation issued under

(b) This code, except as to provisions required by the Act, may be modified or amended on the basis of experience or changes in circumstances, such modification or amendments to be based upon application to the administrator and such notice and hearing as he shall specify and to become effective on approval of the administrator, unless otherwise provided and when so approved shall have the same force and effect as any other provision of

That article has been changed in its entirety from the article which appears in the printed form.

Article IX-Effective Date

Coming now to Article IX, Effective Date, as it appears in the printed form Article IX is deleted in its entirety, and this is substituted:

This code shall become effective on the

eleventh day after its approval by the administrator unless otherwise provided.

I will file a copy of this for the record.

Assistant Deputy Cowling: I call your attention to Article I.

Does anybody wish to be heard on Article I?

If not I simply want to call your at-

If not, I simply want to call your attention to the fact that this is a supplemental Code for the refrigeration subdivision of the electrical industry, which has a basic code

Now, we will come to Article II. Mr. Irving C. Fox wishes to be heard on Article II.

Dry Goods Men Object To Code Provisions On Retailing

Statement of Mr. Irving C. Fox Bepresenting the National Retail Dry Goods Association

Mr. Pox: May I remain seated at this informal hearing?
Assistant Deputy Cowling: That is quite all right.

Mr. Fox: I represent the National Retail Dry Goods Association.
Our objection to Article II, Definitions is to the two words "person promoting," which, in a strict interpretation, will practically mean every one of the 4,500 mem-

bers of our Association.

Whether that is an inadvertance, or whether it is in there advertently, we do not know.

We certainly do promote electric refrig-eration, and we are continuously and coneration, and we are continuously and consistently promoting it, and if that is intended to cover all retailers promoting electrical refrigeration, we object to it being in the Code, on the ground, first, that the members of our Association and our Association were not invited to participate in the making of this Code, and ticipate in the making of this Code, and we should have been if we were to be covered by it.

Our second objection is the fact that this is a supplement to a manufacturing code, that the basic code was signed by the President as a manufacturing code, and that this Code has no right to reach into retailing, which is already covered by the retail code, and the provisions herein affecting retailing cannot and should not be binding on any retailers purchasing and

owning their own electrical refrigerators.

Whether or not the retailers operating under franchises from a manufacturer are to be governed is another question. That is a question of contract between a manu-facturer and his franchise agents, but we object to being brought in under this Code as retailers, as we are by the words "person promoting" the sale of refrigera-

Assistant Deputy Cowling: Is that all, Mr. Fox? Mr. Pox: That is all.

Assistant Deputy Cowling: Mr. Howard E. Blood, of the Norge Corp., Detroit, has asked to be heard.

Mr. Blood: Only as Chairman of this Code committee, and not in respect to any particular clause.

Deputy King: Is it your idea to include retailers in the phrase "every person promoting"?

Mr. Blood: No. It seems to me that that clause reads, "shall include every person promoting the manufacture for sale." It does not say "promoting the sale". It is not intended to include the promoting of

Mr. Pox: Mr. Blood is misreading it. It says, "every person promoting," and then there is a comma, "or actively engaged in the manufacture."

Deputy King: It says "actively engaged

m," and then there is a comma.

Mr. Fox: "or actively engaged in," and then there is a comma, "the manufacture."

If the retailer is not included under this definition, then it should be changed to read, "actively engaged in the manufacture and promotion."

We simply wish to have it cleared up.

Deputy King: There is no disagreement as to the meaning?
Mr. Fox: There seems to be no disagree-

ment as to the meaning, and it is simple enough to find language to express it. You might put that phrase "or actively engaged in" in parentheses, if that will make it clearer, so that the sentence will read, "shall include every person promoting the manufacture or sale."

Deputy King: Let us leave it, "every person engaged in the manufacture and sale of products of the Refrigeration Sub-division of the Electrical Industry."

Mr. Beed: "Manufacture for sale" is the

In view of the insertion of a new Article IX, which fixed the effective date. I think

this Article II can be deleted. It is simply repetitious. New Article IX reads: This Code shall become effective on the

This Code shall become effective on the eleventh day after its approval of the Administrator unless otherwise provided."

That last sentence can come right out.

Mr. Delaney: Mr. King makes another suggestion: "Refrigeration Subdivision of the Floatists."

Electrical Manufacturing Industry"; isn't that correct? Mr. Ruthenburg: The Basic Code means

the code for the Electrical Industry.

Assistant Deputy Cowling: Outside it is the Electrical Industry, but inside it is the Electrical Manufacturing Industry Mr. Delaney: The Electrical Manufactur-

Assistant Deputy Cowling: Does anyone else wish to be heard on Article II? If not, we will consider Article III. Mr. Fox,

do you want to be heard on Article III?

Mr. Pox: Article III, as I understand it, has been amended, but my objection to Article III is due to the fact that they attempted to follow the merchandise into the hands of the retailer. I understand from the amendment, if I heard it cor-rectly, that that is now eliminated, and that it merely refers to the advertising or

would like to withhold any further criticism until I actually have a copy of the amendment, and if there is any obthe amendment, and if there jection to it, file a brief on it.

Assistant Deputy Cowling: Does any-one else want to be heard on Article III? Mr. Schurz: Mr. Deputy Administrator, the Labor Advisory Board wishes to take exception to the second clause in Section b, which reads as follows:

and shall refrain from maliciously enticing away employees of competitors for the purpose or effect of unduly hampering, injuring, or embarrassing competitors in their business.

believe that that enticement clause constitutes an infringement on the natural rights of an employee to change his employer on the initiative of another em-ployer. It is a difficult thing in practice to prove the intent of malice, or the intent of embarrassing another competitor, and we ask for the deletion of the last three lines of that sentence, beginning, "and shall refrain," etc.

Mr. Edmonds: Mr. Deputy Administrator, I have a few comments to make on several of these Articles, but if it is satisfactory to you I would rather make a general statement at the end of the hearing.

Assistant Deputy Cowling: That is quite all right

Fox Seeks Protection for Distributor & Retailer In Patent Suits

Mr. Fox: I overlooked clause (g) that I have comment to make on. I do not be-lieve, Mr. Administrator, that the industry has gone far enough in protecting the dis tributor, the retailer, from suits for in-fringement. I believe they ought to go further and add, there "from initiating an action at law or in equity against a cus-tomer for certain infringements, instead of the alleged offending manufacturer, where his identity is known or can easily be obtained, is an unfair trade practice."

If they really wanted to try to stop that practice of intimidating retailers, they should add that to this clause. They cannot prohibit it, naturally, because under the patent laws a patentee claiming an in-fringement has the right to proceed against a distributor instead of against a manufacturer who is infringing the patent. But to protect you to that extent, that is to make it an unfair trade practice for the owner of an alleged patent to proceed against a distributor or retailer unless he has first proceeded against the manufacturer infringing the patent, and if they really want to protect the retailer prevalent in late years, we feel that that is the way to do it, and we ask that the provision should be amended to that effect.

Assistant Deputy Cowling: Do you wish to say anything to that, Mr. Blood?
Mr. Blood: I would like to have the opportunity to file a brief at a later date on that subject, after giving it due consider-

Assistant Deputy Cowling: All right, sir.
Mr. Reed: Mr. Deputy Administrator,
right on that point, there are a number
of practical difficulties with the suggeswhich has been made.

In the first place, in the case of a for-eign manufacturer, his identity may be known, but obviously he can not be sued under United States patent. In a case of that sort naturally the distributor is available to the patentee, in the way of en-forcement of his patent. Secondly, it is not uncommon for manu-

facturers to sell only through one sales outlet, and from our experience with pat-ents, of course, we know that manufacturers do sometimes select a company which perhaps they may own themselves, which handles their entire output and sells it.

The only way you can get evidence of the infringement of a patent is by making a purchase of the infringing device. In the case that I speak of, you could not possibly make a purchase from the manufacturer. You might know who he was, but you could not make a purchase from him, because he sells only through this selling company. You can make a purchase from that company, and get your evidence, and sue that company, but that evidence is not sufficient upon which to base a suit against the manufacturer. You secure an injunction against the selling company, and it forthwith closes up, but a new one opens the next day, representing the man-ufacturer as its exclusive sales outlet.

There are any number of ways in which a manufacturer who knows he is infringing and seeks to avoid protest, can hide himself from the patent key, and if this clause were inserted, it would make it substantially impossible to enforce a patent against an infringer who knew his way about and was trying to avoid the

evidence being secured against him. Assistant Deputy Cowling: Do you wish a file a brief, Mr. Reed, on that?

Mr. Reed: I shall be very glad to file a brief, and urgently recommend that the Administration seriously consider that suggestion. I think it deprives the owner of rights he has under the Patent Law. I do not think it proper to put a provision of that sort in a code. The provision as it stands does not deprive the patentee of his right to sue.

would be very glad to file a brief on

Mr. Pox: May I say another word on that point?

It is quite true, where the manufacturer is a foreign manufacturer, that it would be difficult to reach him, but the illustration just given, in which it is stated that a suit against a distributor could only be had because of the purchasing from that distributor, and that the distributor after an injunction is granted, might fold up, a new distributor be appointed by the up, a new distributor be appointed by the manufacturer, is more an argument supporting my proposal than against it, because if this action is brought against the manufacturer, and an injunction issued against the manufacturer, he could not change his distributors; the injunction would be against the source, where it ought to be, and as a practical matter, the evidence obtained by a purchase from the evidence obtained by a purchase from a distributor is immediately by the distributor's own evidence followed into the manufacturer.

These are legal arguments, and I know they are not applicable here, but if in good faith the retailer is to be protected against the infringement suits and intimidation, of course, the only way to do it is to make it an unfair trade practice for any member of this industry to sue a retailer, where he can reach and does know the manufac-

Mr. Reed: Perhaps I did not make myself quite clear. The point I was making was that the manufacturer can make it impossible for the patent owner to secure evidence against him on which to base a

suit. If the manufacturer refuses to sell to the patent owner or some one whom he is securing evidence through, then there is only one other way of getting the evidence, that is by putting a spy in the manufacturer's plant, to observe his manu-facturing, and that of course is difficult to do, even if you want to do it. So if the manufacturer declines to sell, there is no way in the world you can get evidence

against him.

Assistant Deputy Cowling: I would like to make as complete a record of this hearing as possible, and I will have a chair put here, and anybody who wants to speak—I do not care to have him stand, but if he will sit up close so we can have a very complete record, I think that will be

Does anyone else wish to be heard on Article III? If not, we will go to Article IV, "Advertising and Sales Promotion." Mr. Fox has filed a request to be heard

on Article IV.
Mr. Fox: Article IV has been amended slightly. We have a distinct feeling that in its application there is too much left to interpretation.

"Positive and truthful statements may be made concerning the advantages of the product, features of the product, company, and its methods of doing business. No mis-representation, however, shall be made con-cerning the disadvantages of other products, features of products, or concerning competitors' methods of doing business." We have the feeling that the entire Ar-

ticle IV should be simplified, and propose

the following:
"No advertising which is inaccurate in any material particular, or misrepresents merchandise or credit stands, values, poli-cies of service, or which tends to deceive the consumer, shall be used, and no advertising shall be used which refers in any manner to a competitor or his mer-

We do not think it is fair, we never have thought it was fair, to refer to com-

petitors in an advertisement in any way.

Assistant Deputy Cowling: Isn't that really the intent of Article IV, as written Mr. Ruthenburg: I think we are talking

Mr. Ruthenburg: I think we are talking at cross purposes. The only clause available to Mr. Fox apparently is the one in the printed form which has been deleted and entirely superseded. If you like, I will read the superseding clause again.

Mr. Pox: I wish you would.

Mr. Ruthenburg: You read, as I understand it, Clause (b) of Article IV?

Mr. Pox: Yes.

Mr. Ruthenburg: Clause (b), as it appears in the printed form, has been de-

pears in the printed form, has been de-leted entirely, and this clause substituted, which I believe provides in substance what you read. It is as follows: "No false, untrue, misleading, or deroga-tory statements shall be made, either di-

rectly or by inference, in any advertising or sales promotion concerning the product advertised, or any competitive product, nor shall any statement be made the effect of which will be to mislead the public with respect to other products.'

Mr. Fox: I go further than that. I say no competitor shall be named, or any competitor's product should be named in an ad. We do not think it fair, whether it is misleading or false, or not, we do not believe it fair for one manufacturer to mention another manufacturer's product in his ad, or to refer to it in any way.

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If gas refrigeration is good or bad, it should be the business of the manufactur-ers of such refrigeration to sell their article to the public on its merits. It should not be the function of the electric re-frigerator manufacturer to refer to that gas refrigeration in any way, or vice versa, to attempt in any way to induce the public to believe that any other type or refrigeration is wrong, or dangerous r ineffective.

We have been fighting that for years, in

many industries, the reference to the prod-uct of a competitor, and we still feel that no ad should contain any reference to a competitor's product. That is where my proposal goes a little bit further than

Mr. Buthenburg: I might say, in further explanation of the long and frank discussions that took place in formulating this Article, that the idea was to go just as far toward not using competitive references as it was practically possible.

You will note that we even went so far in the last clause of this Article as to

"Neither direct nor indirect use shall be made of competitive apparatus for comparative purposes in connection with sales promotion or advertising."

Impossible Not to Use **Product Comparisons** In Selling—Fox

Mr. Pox: We are going to object to that, because that is impossible to carry out in a retail store, where you have the two products side by side, and the customer asks the question, "Why is this more advantageous than this?" We certainly could not isolate these various samples, and have them scattered in various parts of the store. They are all in the same section. they are standing side by side, and there must be a comparison of that sort, and we are asking that that section be eliminated, for that reason.

It is impossible not to use competitive items in retailing, and naturally, no sales person can tell a customer, "I refuse to answer your question with regard to the various merits of these two pieces of apparatus, simply because the code provides that there shall be no comparison

Mr. Delaney: You would not be violating this code if you did, would you, Mr. Fox?
Mr. Fox: I don't know. That is a ques-

These references unfortunately are not applicable, except in a manufacturer's ad, but the manufacturer says there shall be no comparison, and whether we are going to be considered as a manufacturer's agent or not for one machine, and as the owner of another machine, is a question.

Theoretically, you are perfectly right.

Mr. Buthenburg: May I make a statement, I believe of fact, and certainly of intent? There is no intent on the part of the manufacturers responsible for this code to in any way infringe upon the jurisdiction of the merchandising codes,

(Continued on Page 6, Column 1)

WHO BUT NORGE

WOULD THINK OF IT?

Right at a time when already there is a wide gap of distinction between Norge and ordinary refrigerators, comes A NEW, FINER NORGE



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Many sales winning improvements that you can demonstrate, that one can see and feel—new, practical features that will make your customers want a Norge more than ever... distinctive beauty with instant appeal... greater convenience that can be recognized at a glance. No matter how high your customer's ideas of a refrigerator are, the new Norge will meet them all, and more. It's going to be easier than ever to sell the Norge.

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The same expert, aggressive engineers, who made the Norge predominant in exclusive advantages, have added another chapter to their record of achievement in the new, finer Norge. Reflect on the spectacular record of Norge dealers in the past, and think what vast possibilities are in store for dealers who sell the new, improved Norge.

The famous Rollator cold-making mechanism alone has been enough distinction to create enviable sales records for Norge. Now Norge has all these other advanced features, plus outstanding beauty, leadership in cabinet design, and proved economy.

Write, wire or phone today about the new Norge. Let a Norge representative give you details of the Norge dealer plan, salesmen's bonus, sales and advertising helps.



THE ROLLATOR • Smooth, easy rolling power supplants the hurried back-and-forth action of the ordinary refrigerator mechanism. Result — far better cooling power for the current used and a mechanism that actually improves with use. Only Norge bas the exclusive Rollator cold-making mechanism.

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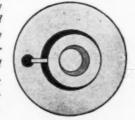
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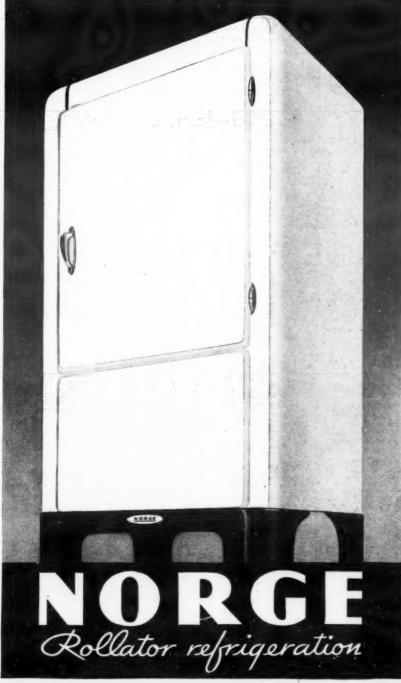
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NORGE CORPORATION; Division of Borg-Warner Corporation, 606-670 East Woodbridge Street, Detroit, Michigan. • Manufacturers of Rollator Refrigeration • Electric Washers • Broilator Stoves • Aerolator Air Conditioners.

G-E Opposes Service Plan and Prices For Replacement of Machine

(Continued from Page 4, Column 5) which are now in effect, or which may in future be in effect. It has been felt, however, that the manufacturers almost of necessity had to place in their code certain ideals or policies, with respect to merchandising, for the guidance of their organizations, but anything that might be acceptable, that would indicate in the words of the code that there is no intended conflict with the Administration, conflict with the Administration, I am sure will be acceptable to our peo-

Mr. Blood: Mr. Administrator, I might state that the objective of the men that have written this code is exactly in line the ideal expressed by this gentle man. We feel that the clause, as worded here, is stronger in effect than the one he has suggested. Merely to prohibit the spe-cific mention of a competitor, or of com-petitive apparatus would not accomplish petitive apparatus would not accomplish the purpose that he has in mind, because it is possible to make statements in ad-vertising which indirectly refer to com-petitors, and competitors' products. There-fore, we have introduced here, "Nor shall any statement be made the effect of which will be to mislead the public with respect will be to mislead the public with respect to other products," believing that the prop-er intent of advertising shall be to educate, explain clearly what the product is, believe that the control should be even extended to consideration of the effect of statements made.

statements made.
So it was our thought that this clause, which was the result of trying to do the same thing which he is asking for, does it very equitably.

Mr. Pox: Mr. Administrator, if we go to

Mr. Fox: Mr. Administrator, if we go to (e), it says, "Neither direct nor indirect use shall be made of competitive apparatus for comparative purposes in connection with sales promotion or advertising."

That is what I refer to. Two pieces of apparatus side by side is sales promotion.

Frankly, I do not see how a manufac-turers' code can provide these various

I have an objection to (d): "Used apparatus shall not be accepted in partial payment for the products of the industry for sums greater than will be realized in the resale of such used products." It would take a clarivoyant, frankly, to control this subdivision. Nobody knows

how much is going to be realized in the resale of a product. I don't see how a manufacturers' code could contain such a clause, if it did not extend to the retailer. Because the manufacturers are not talking this used apparatus, I take it, as part payment unless they are selling direct to the consumer.

They have no right to sell direct to the consumer except under the Retail Code, because the Retail Code covers all sales at retail direct to a consumer, and there is no superseding code for this in-dustry selling in retail. That is a thing about this Code that is puzzling me, very frankly. I do not know where the manu-facturing leaves off and the retailing be-gins, and we feel there should be no encroaching on retailing by means of this Code. We are asking that clause (d) be completely eliminated

Everybody would like to see this second-hand apparatus cleared up, but it cannot be cleared up by asking the retailer to ascertain in advance what he is going to sell a piece of apparatus for that he may take in exchange. He cannot do it.

He does not know what the resale price is going to be. It is impossible.

And the same with clause (e). That is exactly in line with what I said before—that no use shall be made of competitive apparatus in connection with sales pro-

Now, if that means simply by the manufacturer in his own factory, or in his own salesrooms, that is all right, we have no objection to it, because we have no right to object. But if it goes further and means the manufacturers' agents, that is another

This looks like a vertical code, without statement being made that it is a ver-Assistant Deputy Cowling: Does anyone

else wish to be heard on Article IV?

Mr. Ruthenburg: I should like to reiter ate that these provisions which deal with merchandising practices are an expression of the manufacturer's considered policies in these matters, but that there is no intention of infringement upon the jurisdic-tion of the merchandising codes. We have certain problems which are not perhaps known to retailers, which very directly require regulation by the manufacturers

For example, an important part of the sale of household refrigeration is done to large apartment houses in which a very considerable quantity of refrigerators are sold to one building. That very generally is handled by a branch owned and controlled by a manufacturer, and does not lend itself in any way to the conventional resale or retailing operation. So it seems very necessary to us that having made it clear that we intend no infringement, we must set up certain standards for the control of merchandising.

Assistant Deputy Cowling: It seems to me that we won't have much trouble in being in accord on these things, and I would suggest that instead of delaying this hearing we arrange to take these

things all up at a post-hearing.

If there is no objection, we will go to Article V, "Warranty and Service Policy." I have the same suggestion to make there, bout a post-hearing on that.

Mr. Blood: Mr. Administrator, we are,

of course, entirely in accord with your suggestion, but would like to have the opportunity of filing such briefs as may be deemed advisable in connection with he various clauses, in this post-hearing.

Assistant Deputy Cowling: That is quite

all right. Mr. Reed, did you wish to be Mr. Reed: Mr. Administrator, I might suggest that perhaps the memorandum we presented at the previous hearing might be read today, by those who were spon-soring Article V, particularly Article V,

Assistant Deputy Cowling: I might say that this brief that you filed at this other hearing is here. Did you wish that made a part of the record, or did you want to

Mr. Beed: That is our original state-

ment. Yes, I would like to have it made a part of the record. I would be very glad to read it into the record, if you like.

Also I have a supplemental statement which applies directly to a number of the arguments and statements of fact appearing in the memorandum, which was filed by the sponsors of this Article V at the preliminary hearing held last night. I would be glad to file that for the record, and I would be glad to read it.

Assistant Deputy Cowling: That is entirely up to you, if you would like to read

G-E Cites Service Record In Opposing Prices on Replacements

Mr. Reed: If I am going to read that, I think it would be better if I read the earlier statement too, because they run right together, and the continuity is essen-

First I will read the statement that was filed by the General Electric Co. at the hearing on Jan. 4 at which the proposed Supplemental Code for the Refrigeration Subdivision of the Industry was first pre-

Statement of the General Electric Co. in Opposition to Article V (b) of the Proposed Supplemental Code for the Refrigeration Sub-Division of the Electrical Manufacturing Industry.

January 4, 1934. General Electric Co. approves and sup-ports the proposed Supplemental Code for the Refrigeration Sub-Division of the Electrical Manufacturing Industry with the exception of Article V (b). Article V (b) reads as follows and its inclusion in the Supplemental Code is opposed by the General Electric Co. for the reasons hereinafter stated:

may develop individual "Employers plans for providing replacement units in case of complete failure after the expiration of the warranty, providing that amounts not less than the following schedule shall be billed to the customer and that such schedule of charges shall not be included as part of the selling price of the original equipment, and shall not be billed charged for in advance of such re-

For replacement in the 2nd year....\$ 7.50 For replacement in the 3rd year.... 12.50 For replacement in the 4th year.... 17.50 For replacement in the 5th year.... 20.00'

In order that the meaning and effect of the above quoted paragraph be fully understood, a word should be said about the two distinct types of domestic refrigeration mechanisms on the market today

1. The open-type or conventional ma-chine. The moving parts of this machine are exposed and are accessible. When failure occurs it may be and usually is repaired on the premises and is therefore almost never subject to "complete failure" requiring replacement of the refrigerating unit. It will be noted that Paragraph V (b) provides only for cases of complete failure and therefore has little, if any, effect on manufacturers of the open-type or conventional machine. The life of this type of refrigerator is variously estimated at from five to ten years.

 The entirely enclosed hermetically sealed machine. The General Electric Co. developed and pioneered the sealed-type machine, placing its first domestic refrig-erator on the market nine years ago. The advantage of the sealed machine, properly manufactured, is that being free from dirt, air and moisture (the agents of corrosion) its normal life is much longer than that of the open-type or conventional ma-chine. General Electric Co. has made sealed machines of the large commercial type which are still operating without service or repairs after twenty years.

The moving parts being entirely enclosed and hermetically sealed, this machine cannot ordinarily be repaired on the premises but must be sent back to the factory to be remade whenever it fails. Thus virtually all failures of the sealed mechine are "complete failures" and fail machine are "complete failures" and fall within the purview of Paragraph V (b) above. Obviously, it would be impossible for the sealed machine to be successful if there were any considerable percentage of failures. Accordingly, the sealed machine manufactured by the General Electric Co. is made with the greatest care and subjected to rigid tests and inspection

before it is shipped.

As above stated, Article V (b) of the Supplemental Code affects manufacturers of the sealed machine but does not affect manufacturers of the open-type or conventional machine, General Electric Co. not today the only manufacturer of sealed refrigerators. Five years after the General Electric Co. marketed its sealed re-frigerator, the Westinghouse Electric & Co. introduced a sealed-type machine of somewhat different construction Since then other manufacturers have followed with other sealed-type machines. However, none of them has had experience either in length of time or number of machines sold comparable with that of the General Electric Co. It is conserva-tively estimated that over 80% of the sealed machines now in use are the product of the General Electric Co. There are 4,500,000 refrigerators in use homes today, of which about 1,500,000 are

sealed machines.

The effect of Paragraph V (b) above quoted would be to require General Elec-tric Co. or its dealers to charge the customer minimum prices listed in that paragraph for replacement units in cases of complete failure after the first year of operation. The General Electric Co. strenuously objects to being required to collect these minimum charges from the user for

the following reasons: 1. The purchaser of a General Electric ealed machine pays a higher price therefor by reason of the higher cost of manufacturing this type of machine, including the rigid inspections and tests above referred to. Thus the purchaser is paying for security and reasonable assurance that his sealed machine will operate satisfactorily and without service or repair costs for

ears to come. Experience has shown that the purchaser is right in making this assumption, the record of failures on the General Electric sealed refrigerator in the second, third, fourth and fifth years of operation being very low as follows:

2nd 3rd 4th 5th

Year Year Year % Failures ...32% 1.8% 1.5% While the percentage of failures on the General Electric sealed-type machine is low, nevertheless these failures do occur, as above indicated, and the General Elecas above indicated, and the General Elec-tric Co. is unwilling that in these rare cases the purchaser should suffer. The cost of replacing each unit is approxi-mately \$34.00 and this cost is the same whether the machine fails in the second,

third or fifth year.

I might say right there that that item of \$34.00 covers reconditioning and freight charges; it does not include the item \$5.00 paid to the distributor for installation of the replacement unit, which I will refer to later on.

But our records indicate that the average cost of replacing all failures from the second to the fifth year inclusive is less than \$5.00 per machine sold. Accordingly, rather than penalize the unfortunate purchaser whose machine failed, it is the policy and practice of the General Electric Co. to include in the delivered price of all sealed machines sold a \$5.00 item which, as above stated, adequately covers the average cost of replacement of all failures from the second to the fifth year, and when failure occurs during that time to replace the unit without additional charge. Experience has indicated that this practice is desired by our customers and is greatly preferred to exposing the purchaser of a faulty machine to a substantial charge for its re-

placement.
Surely, there is nothing unfair or improper in handling our business in this way for the protection of our customers. It is possible to do this only because our average replacement cost is a nominal sum, and to require the General Electric Co. to discontinue this plan would be to penalize the General Electric Co. and its customers because of the very excellence of its product.

It is apparent that prospective customers faced with possible additional costs, varying from \$7.50 to \$20.00 in the event of failure, would hesitate to pay the higher price for a General Electric sealed refrig-erator when they can purchase the opentype or conventional machine for sub-stantially less money and be reasonably sure that failure would not be "complete failure" requiring the imposition of the replacement charges above referred to.

2. The proposed schedule of minimum re-

placement charges is unfair and discriminatory as between the open-type and sealed machine (and therefore between competing manufacturers) in that without any relation to cost and on a purely arbitrary basis, it imposes a handicap on the sealed machine without making any pro-vision whatever for a corresponding sched-ule of minimum service or repair charges on the open-type or conventional machine. Only the sealed machine is subject to "complete failure" and the necessity of complete replacement. The open-type ma-chine may be repaired on the user's premises by simply attending to the particular defect, but the Supplemental Code is silent as to minimum charges to be made for such service or repair.

3. The effect of Article V (b) is to estab-

lish minimum prices for the replacement of sealed machines. It is our understanding, based on provisions that have been stricken from numerous other Codes. that the establishment of minimum prices for the goods of industry is contrary to the policy of the National Recovery Administration, and for this reason also the General Electric Co. opposes the inclusion of Paragraph V (b) in the Supplemental

General Electric Co.

G-E Answers Nema on Warranty Provision

Then the supplemental statement, dated today, reads as follows:

Supplemental Statement of General Electric Co. in Opposition to Article V (b) of the Proposed Supplemental Code for the Befrigeration Sub-Division of the Electrical Manufacturing Industry.

January 29, 1934. In a statement filed with the National Recovery Administration at the hearing on Jan. 4, 1934, General Electric Co, fully explained its policy of replacing without charge the sealed mechanism of its "Monitor Top" refrigerators in the event of failure during the first five years of servthe event of ice. Said statement also contains the reasons why this policy is fair, sound and beneficial to the purchasing public, and reasons why General Electric Co strongly opposes Article V (b) of the proposed Supplemental Code, which would prohibit free replacement after the first Supplemental Code, which would

Subsequent to the filing of the above referred to statement, a memorandum was filed by the sponsors of Article V (b) urging its adoption. It is the purpose of this supplemental statement of the General Electric Co. to point out certain inaccuracies and, we believe, unsound arguments

appearing in that memorandum. 1. The memorandum correctly states that on other electrical appliances it is not the policy of the General Electric Co. to offer free replacement over a term of years; but the memorandum wrongly concludes that this fact indicates General Electrical that this fact indicates General Electrical Co. is using this replacement policy in the refrigeration field for some special that other purpose. The fact is that other competitive purpose. The fact is that other electrical appliances sold by the General Electric Co. do not have their working parts hermetically sealed. On these un-sealed devices, including the open-type refrigerator manufactured and sold by the General Electric Co., no long-term free replacement policy has been adopted or is contemplated. The sealed unit, however, is quite different in that the mechanism canbe touched by the purchaser and if failure occurs under normal usage, the cause must lie in the manufacture or assembly of the sealed unit. This, quite properly and for the protection of our customers, a different and special policy has been adopted with respect to been adopted with respect to the sealed 'Monitor Top" refrigerator.

2. It is argued in the memorandum that long-term warranties tend to promote monopolies and to eliminate and oppress

small enterprises. In support of this argument it is said that other manufacturers are forced as a competitive matter to meet the free replacement offer of the General Electric Co. and that the heavy expense resulting therefrom weakens these manu-facturers and their distributors and ultimately forces a substantial number of them out of business. The reply to this is obvious. As is pointed out in the statement of the General Electric Co. filed Jan. 4, 1934, the entire cost to the General Elec-tric Co. of replacing all failed units from the second to the fifth year of operation is less than \$5.00 per machine sold, and this amount is included in the price of each refrigerator. Thus it is apparent that any company, whether large or small, whose percentage of refrigerator failures in the field is no greater than the per-centage failure of General Electric sealed refrigerators, can adopt the General Electric Co.'s replacement policy and recover the entire cost thereof by adding a nominal sum to the selling price of their re frigerator. Indeed, their cost would be less than that of the General Electric Co. because we are informed that the reconditioning and replacement cost of other sealed refrigerators is less than that of the General Electric Co.'s "Monitor Top" refrigerator. If other manufacturers are unable to bear the burden of a free re-placement policy, the unavoidable answer is that their machines do not match the performance of the General Electric Co.'s "Monitor Top" sealed machine. If this be true, they should make better machines or should sell their present machines at lower prices and not try to match General Electric performance.

The replacement policy of the General Electric Co. is no burden to its refrigera-tor distributors. The replacement units is furnished to distributors free of charge and General Electric Co. pays the distribu-tor \$5.00 to cover the cost of delivering and installing each replacement unit. The best answer to the argument that this poli-cy is burdensome and oppressive to distributors is that the General Electric Co. refrigerator distributors approve and sup-port the policy, and that the turnover of General Electric refrigerator distributors is substantially less than the average turn-over of distributors in the refrigeration industry.

Further evidence that this replacement policy does not tend toward monopoly is to be found in the fact that in the year 1933, General Electric Co. had less than 22% of the dollar volume and less than 18% of the number of units of the electric refrigerator business of the country, and the General Electric Co. is not the largest producer of electric refrigerators in the field.

3. It is believed and submitted that the General Electric Co.'s free replacement policy has done much to improve the design and quality of electric refrigerators produced by the industry. The offer of free replacement of the sealed "Monitor Top" unit in the event of failure during its first five years of operation has spurred other manufacturers of electric refrigerators to improve the design and quality of their product and has thus resulted in better, more efficient and, in the end, cheaper re

rigeration to the public.

4. Articles V (c) and V (d) of the proposed Supplemental Code deal with advertising and sales promotion of manufacturers who have a unit replacement policy extending beyond the standard one year warranty period. The one year warranty covers the entire refrigerator, including the cabinet, finish, hardware, etc., whereas the unit replacement plan, which becomes effective after the one year warranty has expired, applies only to the sealed icing unit, which is separable from the cabinet. Articles V (c) and (d) above referred to require that all advertising and sales promotion material be so worded as sales promotion material be so worded as not to confuse a manufacturer's unit re-placement plan with the one year warranty, and requires also that where a manufacturer refers to its unit replacement plan in advertising or sales promotion, the same shall state clearly the amount which has been added to the selling price of the complete refrigerator in order to cover the average cost of unit replacement.

The General Electric Co. approves and supports Sections (c) and (d) above mentioned and points out that they will re-strain manufacturers having unit replace-ment plans from advertising the same in a way that is confusing or misleading to the public.

In passing, the General Electric Co. wishes specifically and emphatically to deny the statement appearing on page 3 of the above mentioned memorandum to the advertis General Electric Co. several years ago was withdrawn by it upon representations by competitors that the theme of the advertising campaign was not in accordance with the facts.

5. In closing we wish to repeat that the 5. In closing we wish to repeat that the General Electric Co. created and pioneered the hermetically sealed domestic refrigerator; that the remarkable performance record of the General Electric Co.'s hermetically sealed "Monitor Top" refrigerator has made proper and possible the free replacement plan offered to purchasers; that there is no warrant or justification for the arbitrary replacement prices. tion for the arbitrary replacement prices for sealed units established in proposed Article V (b); and that in our judgment the sole issue with respect to Article V (b) is whether General Electric Co. has the right to establish attractive sales plans and prices for its product and services, to its own customers, or whether it must accept a fixed schedule of replacement charges which is apparently intended to offset, competitively, the inherent quality advantage of the General Electric hermet ically sealed "Monitor Top" machine. We venture to say that if Article V (b) becomes a part of the Supplemental Code for the Refrigeration Industry, the fixed schedule of replacement prices for sealed units therein established will immediately be placed in the hands of every salesman of competing open-type refrigerators and will be used as a strong sales argument in favor of the open-type machine, which has no service or repair charge schedule in the Code.

General Electric Co. Assistant Deputy Cowling: Mr. Quinn, do you wish to be heard?

Mr. Quinn: No. Mr. Administrator tant Deputy Cowling: Mr. Fox? Mr. Pox: I want to enter on the record an objection to this warranty provision.

However, if there is going to be a conference at which I am invited to be present, I will reserve any argument on it until that conference is held.

Assistant Deputy Cowling: All right.

Assistant Deputy Cowling: All right. Does anyone else wish to be heard?

Mr. Blood: Mr. Administrator, I think we would be very glad to accept your suggestion of offering our brief on this subject at the post-hearing.

Assistant Deputy Cowling: All right. Do you want this made a part of the record?

Mr. Blood: Yes

Mr. Blood: Yes. (The briefs referred to, entitled respectively, "Supplemental Statement in explanation and support of Article V, Supplement. al Code for the Refrigeration Sub-Division of the Electrical Manufacturing Industry," and "Long Term Warranties in the Elecand Long term warrantes in the Electric Refrigeration Industry—a statement in explanation and support of Article V, Warranties, Supplemental Code for the Refrigeration Sub-Division of the Electrical Manufacturing Industry," are set forth in full in the appendix to this record

Assistant Deputy Cowling: Does anyone else wish to be heard on Article V? If not, we will go to Article VI. Does anyone want to be heard on Article VI?

Mr. Pox: I want to protest Article VI, loss at the post-conference it is cleaned.

unless at the post-conference it is cleared up satisfactorily, as far as any interference with the retailing is concerned. It is very broad. I don't know what is meant be the intention of it.

Assistant Deputy Cowling: I do not be-

lieve you have any intention at all of in-terfering with the retailers or wholesalers

Mr. Blood: We have not. Mr. Administra-

Assistant Deputy Cowling: Does anyone else wish to be heard on Article VI? If not, we will go to Article VII. Is there anything on Article VII? If there is nothing on Article VII, we will go to Article

Article IX.

I have a request here—there is no Article X there, is there?

Mr. Blood: There is no Article X.

Assistant Deputy Cowling: I have some requests to be heard by general witnesses. The first is Mr. Fox.

Mr. Fox: I have nothing further to say.

Assistant Deputy Cowling: The National Retail Furnishers Association, of Chicago, Mr. Fox: Mr. Rowell, their director, has filed a letter with you, I believe, instead

of appearing.
Assistant Deputy Cowling: Mr. Blood, do you wish to be heard on any general mat-

Mr. Blood: No, sir.

Assistant Deputy Cowling: Mr. M. L.
Garrett, Washington, D. C. He is not here.

I have a brief here from the General
Household Utilities Corp., of Chicago,
which I will make a part of the record.
That was in regard to that original Article
III. The only thing I have in mind was to III. The only thing I have in mind was to submit the brief as a part of the record, and their letter withdrawing it.

(The briefs and letter referred to are set forth in full in the Appendix to this record on page 10.)

record on page 10.)

Mr. Delaney: For the purpose of this record I wish to offer an objection by the Legal Division to the Constitution and By-Laws of the National Electrical Manufacturers Association, due to the fact that this Refrigeration Subdivision is based upon the bests electrical code.

on the basic electrical code.

The Legal Division objects and desires a correction in certain of those Articles and

By-Laws.
Article 13 of the constitution should be amended, and Sections 2, 3 and 11 of Article I of the by-laws relative to the mem-bership should be corrected. Section 9 of Article I of the by-laws

should be corrected.

Section 10 of Article I of the by-laws

should be revised.

Section 1 of Article IV, and Section 1 of Article XII should be revised. Assistant Deputy Cowling: Dr. Schurz, have you anything further?

Schurz Suggests Separate Labor Code

Mr. Schurz: Yes. I would like to make one remark, Mr. Administrator. I notice in reading this code it makes no specific provision for labor. I assume, however, from Article I that the labor provisions of the basic code will govern the labor in the

supplemental industry.

We believe, aside from the interest of labor as such, that there are certain features of the basic code which are not for the best interests of the refrigerating industry. The Electrical Manufacturing Industry, and/or, is an extremely diversified group of industries, and the conditions of employment vary extremely widely from one to the other, and we believe that this particular branch of the general industry is no exception to that rule.

I note, for example, that you have a very pronounced production peak, a seasonal peak, which does not conform to the general rule in the remainder of the basic industry, and we do not believe that the provisions in the basic code, as they reate to hours of labor, would the adequate protection you might need.

I am speaking now from the standpoint of the industry rather than from the standpoint of labor. Our motives are not purely unselfish, as you may think, be-cause we realize that there are certain other features of the basic code which are a long way from meeting our wishes, and we should like to have your industry consider its own labor provisions, without the idea of conforming to those of the

I don't know just what your ideas are on that. Mr. Blood, could you give us some enlightenment on that subject?

Mr. Blood: I recognize that what you say is true, that the electrical industry at comprises a good many different types of manufacturing operations in which the conditions affecting labor are very widely different, and the electrical refrigerator industry has, as you say, a very decided peak, and also a good many of the operations are in cities and communities where labor provisions of other codes, such, for example, as the automobile and automobile parts code, affect the same type of labor that we use in our factories, and it seems to me there is great need for reconciling the differences that exist in (Continued on Page 8, Column 1)

GENERAL ELECTRIC HOST TO 200 TOPPERS ON Bernoucla Crucise | Compared to the state of the state

G-E Refrigerator Dealers and Salesmen Win Free Ocean Voyage

BERMUDA—and a glorious week's holiday! Happy, carefree days and nights aboard the ocean liner "Queen of Bermuda"... many exciting hours of sight-

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1)

seeing, adventure and entertainment in beautiful Bermuda, the gem of tropical isles! That was the extra reward earned by 200 General Electric refrigerator

records of 1933.

General Electric is proud of these
"Toppers" and count it a privilege to have been their host on

pers Club with their sales

the cruise to Bermuda. In winning highest honors in percentage of sales to quota, these sales-

men made outstanding records.
C. S. Witherspoon, G-E salesman in New York, has been a "Topper" four consecutive years, and in 1933 personally accounted for more than a quarter of a million dollars worth of G-E refrigerator sales. Dealer C.R. Davis far exceeded his quota with a refrigerator sale for every working day of the year.

kitchen appliances—and a bigger G-E year is now starting. With the General Electric Monitor Top and Flat Top Refrigerators, G-E Ranges and G-E Dishwashers, new salesmen and new dealers are making new records every year. General Electric Co., Specialty Appliance Sales Dept., Section DF21. Nela Park, Cleveland, O.



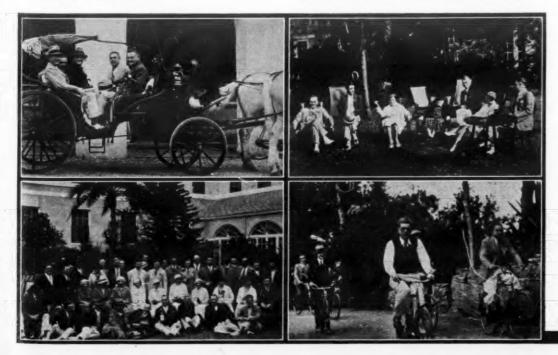
REFRIGERATORS . RANGES . DISHWASHERS

Above are Toppers and their wives enjoying the warm, caressing breezes of the Gulf Stream.

At the left-a maritime conference ends with a picture of ex-navalservice Toppers and the First Officer of the "Queen".

A happy group on their way to the internationally famous Mid-Ocean Golf Course appear in the picture immediately below. The bottom picture is a group of Toppers and their wives "looking pleasant" for the cameraman in front of the Bermudiana Hotel.

Another group of Toppers, with their wives, sunning themselves on the lawn of the hotel, appear in the picture below. "Bikes" and carriages furnish the sight-seeing transportation for Bermuda visitors. Bottom picture shows several Toppers returning from a visit to popular Elbow Beach.



wery working day of the year. DF21, Nela Park, Cleveland, O.

GENERAL E ELECTRIC

Industry's Experience with Guarantees Traced by Code Committee

(Continued from Page 6, Column 5) some of the different industries' codes, which now create the condition of certain men in certain cities being able to work certain hours, where as in other factories doing similar work, just because they happen to come under that other code in the same city, the hours are different, although in a good many cases the peaks of the two industries come at the same time. the two industries come at the same time. For instance, the peak of the motor car industry comes almost identically with that in the electrical refrigerator industry.

As to whether it would be best handled as you intimate, through the refrigerator division having a separate labor code from the N. E. M. A., or the Electrical Manufacturers' Code, is something that we had not discussed, although we recognized, I believe, the possibility that it is worth consideration, as you suggest. I do not feel qualified in other words to express an opinion on it, because it has not been dis-

cussed by us.

Mr. Schurz: It is a problem to which you should give consideration, because I believe that the industry would profit by its own separate labor provisions.

Mr. Brennan: We can do that at the post-hearing conference.

Assistant Deputy Cowling: It there anything on behalf of the Consumers' Advisory Board?

Consumers' Board Ask That Warranty Limits Be Deleted

Mr. Edmonds: I would like to make a statement on behalf of the Consumers' Advisory Board.

The Consumers' Advisory Board is anxious to be of assistance to this industry in arriving at a speedy and equitable solu-tion of the problems with which it is con-

Today we are acting as advisors to the industry, and shall merely outline certain aspects of our reactions to the Code as it

appears in its present form.

We shall be happy to be represented among the advisors to the Deputy Administrator as he reviews the issues brought out at this hearing.

Article III, Section (d). We feel that all

mention of consignment selling should be deleted from the Code. We call special at-tention, however, to the attempt to exert pressure on distributors and direct dealers in preventing sales on consignment. This is not only definitely opposed to consumer interests, but is contrary to the spirit of the Sherman Anti-Trust Act, which still maintains its full force.

Aritcle V, Section (a). In seeking to impose upon the industry a uniform warranty to which all members must conform, this section would deprive the manufactur-er of his inalienable right to stand behind the product of his manufacture; and it ould rob the customer of the security that he may feel in buying the depend-able product of a dependable manufactur-

We feel that as a general principle applicable to all industries, any manufacturer should be left free to build for the future by gaining the confidence of the buying public, whether he does so at the risk of additional expense to himself, or whether the customer knowingly pays for the serv-ice and security that he receives.

We ask, therefore, that Section (a) be deleted from the Code.

Article V, Section (b). This section amounts in effect to price fixing. It is not in harmony with the spirit or the letter of the National Industrial Recovery Act. It would trul to suppress fair competition. would tend to suppress fair competition in the industry. We earnestly recommend that this section be stricken from the Code.

Article V, Section (c). We request that proper amendment be made in this section to coincide with our recommendations on Sections (a) and (b), to which this sec-

tion refers.

Article VI, Section (c). We shall look forward to discussing this section with the Code committee, with a view to determining the definite meaning of the term recognized reputable persons.

In addition to my comments on the Code as it appears, I have several additional amendments which the Consumers' Advisory Board recommends.

eral Provisions, the following additional Sections (h) and (i), which we feel should be of benefit to the members of the industry as well as to consumers:

"(h) No member of the industry shall mark or brand any product of the industry in any manner which has the intent to mislead or deceive customers or prospec-tive customers as to the substance, grade, quality, size, quantity, origin, or prepara-tion of any product of the industry sold

or offered for sale. "(i) No member of the industry shall make or cause or permit to be made or published any false, untrue or deceptive statement by way of advertisement or otherwise concerning the materials or construction used in, the operating characteristics of, the quality, size, origin, or preparation of any product of the industry sold or offered for sale."

To Article VII. Enforcement, we further recommend the addition of the following

"(b) In order to assist in making effective the reports from the industry and in eliminating unfair competition, the supplementary Code Authority (supervising agency of the refrigeration subdivision of the electrical industry) shall make studies and investigations for the establishment of classifications, dimensional standards, quality and/or performance specifications for products of the industry, in coopera-tion with some Federal Government agen-

Thank you, Mr. Cowling. hurs: There is one more question

I should like to ask, and that is whether proper provision has been made in the supplementary Code for constituting a

Code Authority for the industry.

Assistant Deputy Cowling: We have been waiting for the proposed amendments to the basic code. Dr. Schurz: And it is depending on

Assistant Deputy Cowling: Yes. Have you anything to say, Mr. Fridinger?
Mr. Fridinger: I am going to withhold any judgment on the Code until I consult with Mr. George Stone, and he no doubt

with Mr. George Stone, and he no doubt will attend the post-hearing where he will present his views.

Assistant Deputy Cowling: If no one else wishes to be heard, we will call this hearing closed, and I would suggest, if it is satisfactory, that we meet in this same room at 2:30 o'clock for the post-hearing conference. conference.
Is that all right?

(The suggestion met with no objection, and thereupon, at 11:55 o'clock a. m., the hearing of the above-entitled matter was adjourned, subject to the call of the Ad-

Industry's Experience with Long Warranties Told By Committee

Supplemental Statement—"In Explana tion and Support of Article V Supplement-al Code for the Refrigeration Subdivision of the Electrical Manufacturing Industry."

This statement is made in correction of the impression established in objection filed by General Electric Co. to Clause (b) Article V of the above code (Date of filing

Jan. 4, 1934).
On page 3, second paragraph appears this statement: "It is conservatively estimated that over 80% of the sealed ma-chines now in use are the product of the General Electric Co." Carefully collected statistics indicate that only 67.9% of the sealed refrigerators now in use are of General Electric manufacture and that considerably less than 50% of the sealed re-frigerators sold in 1933 were of General Electric manufacture. This correction is not made because of any particular significance but merely to correct the record

Long Term Warranties in the Electric Refrigeration Industry

A statement in Explanation and Support of Article V, "Warranties," Supplemental Code for the Refrigeration Subdivision of the Electrical Manufacturing Industry.

Poreword

1. This statement is submitted for the purpose of placing before the National Recovery Administration a sufficient history of a harmful and unfair trade practice, an analysis of its harmful results and a full explanation of the remedies proposed for future control of warranty practices in the electric refrigeration industry.

2. Seventeen of the eighteen members

of this trade group recognize in long-term warranties, so-called "free service" and "free replacement" plans, as applied to the electric refrigeration industry, the most harmful and unfair practice by which this industry has been afflicted. These seven-teen members have agreed by deliberate letter ballot upon the proposed measures for control.

3. These measures represent the deliberate crystallization of a series of discussions which have been in progress since the inception of the Refrigeration Divi-sion of National Electrical Manufacturers

Association in 1929. 4. It will be shown: 4. It will be snown:

(A) That long-term warranties are not with electrical apgiven in connection with electrical ap-pliances generally;

(B) That long-term warranties, initiated and exploited by one member of the in-dustry, have been adopted in self-defense by many manufacturers:

(C) That long-term warranties are used in the refrigeration industry as an unfair competitive weapon: (D) That such long-term warranties tend

promote monopolies and to eliminate and oppress small enterprises; (E) That if a trade association is to function effectively in this industry, defin-

ite control of such practices is es (F) That such warranties are harmful

to the public interest because:

(a) Many manufacturers and dealers cannot meet obligations established by

such warranties.

(b) Such warranties tend to increase prices paid by the public for electric refrigerators, thereby depriving a large sector of the public of the advantage of modern refrigeration.

(c) Such warranties tend to deprive the public of the benefits of normal technological development. (d) Such warranties increase the total cost of service, thereby adding to the bur-

den which must be borne by the buying (e) Such schemes tend to mislead the buying public.

History of Long-Term Warranties in the Electrical Refrigeration Industry

5. When the Refrigeration Division was organized in 1929, the majority of its members sold their products under a one-year warranty. A few of the members extended two-year warranties.

6. A short time after the organization

of this group, one important member en-gaged in an advertising campaign in which was claimed that no user of electric refrigerators of his manufacture had ever paid one cent for service.

This campaign caused much con-

troversy and upon representations by competitors that the theme of the campaign was not in accordance with the facts, such advertising was withdrawn to be followed by a widely advertised threeyear warranty. 7. It is a significant fact that the prac-

tice of long-term warranties in this in-dustry has been initiated and has been consistently exploited as a competitive weapon by one member of the industry. 8. Other refrigeration manufacturers, despite their conviction that such warran

ties are economically unsound and inimical to the public interest and that of the inhave been forced to adopt the practice in self-defense. 9. Many concerns that have sold refrigerators under long-term warranties are now incapable of carrying out their undertaking, with the result that the buy-ing public has failed to receive that for which it paid and the industry as a whole, in consequence, suffers loss of public con-

10. The member of the industry who initiated and exploits this competitive weap on, manufactures and sells a great variety of electrical appliances and devices, reaching virtually all markets in which there is any demand for electrically operated machinery, instruments, appliances or devices. In the field of household appliances there maket in addition to electric revices. In the field of household appliances they market, in addition to electric refrigerators, electric ranges, washing machines, dish washing machines, vacuum cleaners, toasters, radio receivers, sewing machines, ironers, oil burners, and various heating appliances—in fact, all electrical devices currently used in the homes of this country. Not one of these many household appliances, other than electrical refrigerators, is sold under warranty or replacement policy similar to that under which they market electric refrigerators.

11. This fact would seem to indicate conclusively that the long-term warranty has been devised by them, not in the interest of the buying public, but solely as a com-

of the buying public, but solely as a com-petitive weapon to be used in a specific market in which they believe such weapon

to be required.

12. So many practical difficulties developed as a result of these extended warranties that in a meeting of the Refrigeration Division of National Electrical Manufacturers Association, held Feb. 17, 1932, the form of warranty which is now inthe form of warranty which is now included in Article V was adopted, with one dissenting vote, as recommended practice for the refrigeration industry. At that dissenting vote, as recommended practice for the refrigeration industry. At that time a storm of protest had developed against extended warranties among refrigeration dealers in all parts of the country. This protest found expression in resolutions adopted by dealer groups (See Exhibit "C"); in the result of surveys among many dealers and in trade journal editorial comments. editorial comments.

ditorial comments.

13. Despite these significant and apparently conclusive developments, the member of the industry who initiated the three-year warranty, in 1982 prolonged the period of free replacement of the mechanical unit to a period extending three years beyond the one-year warranty—a scheme very generally referred to and advertised as a "four-year warranty."

14. The majority of the manufacturers who by force of competition adopted the three-year warranty in 1931, taking into account the developments above referred to, abandoned long-term warranties in the beginning of 1933 and reverted to a one-year warranty. But the member of the industry who was responsible first for the three-year warranty, has now extended the period of replacement of the mechanical unit for four years beyond the ex-piration of the one-year warranty. 15. Again, this extension of the replace-

ment period is referred to and advertised in such phraseology as the following:

"For All Practical Purposes We Have a Five-Year Guarantee." (See Exhibit "G"). 16. Again, there is serious danger that many other manufacturers of refrigeration may adopt similar schemes in self defense,

just as they quite generally adopted the three-year warranty in 1931. 17. Again, obligations may be undertaken by manufacturers who will find it impossible to discharge them, with the result that public confidence in the refrigeration industry will suffer further abuse.

Harmful Effects of Long-Term Warranties

18. Some of the unsound features of abnormally extended warranties and "free replacement" plans are as follows:

(A) Despite their consciousness of the unsound features of long-term warranties, many manufacturers have in the past, and may in the future, feel that they are forced by competitive considerations to follow policies established by leading manufacturers. facturers and consequently to adopt long term warranties. It has been conclusively demonstrated that many of the manufacturers who have sold refrigerators under long-term warranties have been unable to meet the obligations established.

19. The following comment is quoted from an editorial which was published in Electric Refrigeration News of December

"Fewer Pingers in the Pie"

"One particularly notable feature of the 1933 season was that there were fewer and larger cuts in the refrigeration pie than ever before. It hasn't been long since we were referring to an industry of more 200 manufacturers. This 40 were taken into account in the final reckoning. And of these 40, five or possibly even ten may not be present in the line-up when the whistle is blown to open the 1934 season."

20. Because of the very general practice of extending three-year warranties on electric household refrigerators in 1931 and 1932, it is quite evident, in the light of the editorial just quoted, that many manufacturers who extended such warranties cannot discharge the obligations as so incurred.

Buyers of refrigerators made by manufacturers who are financially weak or bankrupt and who sold their machines with three-year warranties, fail to receive that for which they have bargained. Such conditions obviously are inimical to public interest.

21. (B) Such plans, generally adopted by the industry, tend to deprive a large portion of the public of the use of modern refrigeration. It must be obvious that "free service" is a fallacy—somebody al-ways pays for service. If the manufacturer extends a warranty or free replace-ment policy over a long period of years, it follows that the installed price of his machine must be higher than otherwise the case. The machine may of inherently expensive design, and to this initial high cost there must be added to the installed price of the machine whatever cost may accrue to the manufacturer his distributor and dealer, for servicing machine he sells. High installed prices make it impossible or economically un-sound for people of low incomes to pur-chase such machines. By this process a large number of people are deprived of use of modern refrigeration and the expansion of the industry is retarded.

22. (C) Long-term warranties and replacement schemes tend to deprive the public of improvements in design to which

they are entitled. Where normal division they are entitled. Where normal division of responsibility between manufacturer and user exists, the manufacturer feels free to develop improvements which tend to reduce costs to the user and to render to the public an improved service. When the manufacturer, with his distributors and dealers, operates under long-term warranties or long-term replacements policies, he finds it extremely hazardous to introduce innovations or improvements beintroduce innovations or improvements be-cause the cost of extending service and free replacement over a long period of years in connection with such improve-

ments may be disastrous.

23. Consider the motor car industry:
Reputable manufacturers have assumed
reasonable responsibility for the performance of their products. They have not, however, extended warranties or free replacement policies over long periods of time. As a result of this normal condition, improvements have been introduced quite rapidly, with the result that the public has from year to year been able to pur-chase vastly improved automobiles at constantly reduced prices. If, in the early days of the motor car industry, the pernicious practice of long-term warranties had been introduced, it undoubtedly would have prevented developments so beneficial to the public interest, and in all likelihood the motor car industry would still be selling their products to a very limited market, which would be forced to accept such automobiles as the curved dash Oldsmobile and the single cylinder Cadillac at prices higher than those now paid for such automobiles as the Chevrolet, Ford and

Plymouth.
24. It is difficult to conceive any device that will so encourage perpetuation of status quo in mechanical developments as do long-term warranties.

25 (D) The actual cost of service is higher under long-term warranties than would otherwise be the case. It is a demonstrated fact that buyers of household refrigerators frequently call for service under long-term warranties when such calls are unnecessary and would not be made if service were paid for as rendered. Records exist of thousands of service calls in which alleged defects were corrected by replacing a wall plug, turning the switch, replacing a fuse, defrosting an evaporator—in brief, doing these things which the user would do of his own ac-cord if a normal relationship with the seller were in effect.

26. In the aggregate, such costs must be borne by the buying public and it seems obvious that any practice which tends to increase the cost of service withcorresponding benefit is inimical to public interest.

27. (E) Such schemes are likely to mislead the buying public. Unfortunately the average prospective purchaser of a refrigerator frequently is no well enough informed to understand that so-called "free service" or "free replacement" is a myth. He is led to believe that he is setully obtaining comething for posting actually obtaining something for nothing, despite the fact that if the manufacturer, distributor and dealer are to stay in business, the cost of service must, in some manner, be paid by the user, regardless of whether he pays for the service rendered, pays for the service in the form of a higher installed price, or pays for the service by subscribing to some form of service insurance policy.

28. Any policy which tends to mislead the buying public must be inimical to the interests of the public and, in the last analysis, harmful to the interests of the industry involved. industry involved.

29. (F) Long-term warranties tend to destroy facilities for distribution and service, thereby working great harm to the public interest. The mortality of dealers in this industry is a serious problem which alike affects the welfare of the public and the industry as a whole. If the public is to be served, it is essential that dealers must remain in business and prosper. Unfortunately the major burden of carrying out long-term warranties and replacement plans falls upon the dealer body. Dealers find it necessary to deduct considerable sums from their gross profit in order to cover the expense of carrying out such schemes, with the net result that many of them are forced out of business

30. As refrigeration dealers are forced out of business, their customers cannot look to them for fulfillment of warranty and replacement undertakings. It is difficult, and frequently it is impossible, for distributors and manufacturers to fulfill such obligations undertaken by discontinued dealers, even though such distribu-tors and manufacturers may be well financed and of good intention. As a result, the buyer fails to receive that for which he has paid, and feels with much justifi-cation, that he is the victim of misrepresentation.

31. Moreover, it becomes difficult to establish new dealers when they know that, in order to maintain the good-will of the buying public, they must make good the warranty and replacement obligations of the preceding dealers at great expense to themselves.

32. (G) It is evident that only the largest and most strongly financed manufacturers can effectively replace facilities for distribution and service that may be destroyed by the process described in the preceding paragraph. Smaller manufacturers are thereby placed at a great disadvantage by their larger competitors. IT IS THEREFORE EVIDENT THAT LONG. TERM WARRANTIES TEND TO PRO-MOTE MONOPOLIES AND TO ELIMIN-ATE OR OPPRESS SMALL ENTER-PRISES

33. (H) Department stores, public utilities and other dealers who sell electrical merchandise other than electric refrigerators state very definitely that the practice of selling one product under a long-term warranty places them in an embarrassing position with their customers and tends to destroy good-will when they are unable to extend similar warranties on other products which they sell.

34. This condition sometimes prompts dealers to extend similar long-term warranties on other products which are not so warranted by their manufacturers. The dealer, unsupported by the manufacturer in such instances, may not be able to fulfill his obligations which results in harm to the ultimate user of such pro-

35. (I) The solidarity and usefulness of the trade association of the Electric Re-frigeration Industry has been threatened

many times because this unfair trade practice, consistently condemned by all but one member of the industry, has persisted. If now, under the declared policy of the National Recovery Administration, this unfair trade practice cannot be definitely placed under control, there is reason to believe that the ability of this group to function constructively in effectuating the policy of the National Industrial Recovery Act will be seriously impaired, if not com

Proposed Measures for Controlling Warranty Practices in the Electric Refrigeration Industry

36. Conscious of the evils growing out of long-term warranties as the result of individual and collective experience with such policies, electric refrigeration manufacturers have long attempted to develop policies which would eliminate such evils and at the some time give equitable rec-ognition to the fact that distinct types of mechanisms were involved and that, therefore, certain manufacturers in the group faced problems which were not common to all members of the group.

37. Distinct service problems are presented by two fundamentally different types of refrigerator mechanisms.

38. The sealed mechanism involves a motor so arranged that with the compressor it is installed in the refrigeration circuit and the combined motor and compressor are sealed in such manner that the entire unit must be replaced in case of any de-rangement of the sealed mechanism. Hand-ling and repair costs for such sealed mechanisms present difficult problems for the manufacturer, and if the full cost of replacing such units must be borne by the individual user, the manufacturer of such echanism is placed at a competitive disadvantage.

39. In the so-called "open-type" chines, a separate motor drives the com-pressor, usually by means of a belt. The important elements of the mechanism are accessible to the repairman and this type of mechanism may be readily repaired on the premises in which the refrigerator is

40. Of the 18 members of this Associan, seven manufacturer and sell sealed refrigeration mechanisms.

41. Recognizing the difficulties involved in servicing such machines, provision has been made in the proposed code for a scale of minimum charges far below the actual cost of replacement, and further provision has been made for including service costs which cannot be liquidated by such equipment. It is further provided, in the interests of the public, that any charge included in the installed price of the ma-chine to defray replacement cost, must be clearly stated in any advertising which re-fers to service or replacement policy. These provisions which take into account the requirements peculiar to servicing sealed machines, are the result of long experience of many manufacturers making machines of this type, and it is believed that the provisions will adequately protect the public interest and the welfare of the industry.

42. The several hermetically sealed ma chines manufactured by members of this group are sold at widely varying prices. Some of them are among the lowest priced electric refrigerators on the market. Others are among the highest priced refrigerators offered. In general, the sealed machines offered by the one member who originated and exploits the long-term warrants. ranty, are among the higher priced units, although other manufacturers of both and sealed machines sell their refrigera-tors at higher prices than those of the ob-

43. Six of the seven makers of sealed refrigerator mechanisms have voted in favor of the provision of Article V, although presumably the makers of low priced hemetically sealed units will find the schedule of replacement charges more burdensome than would the makers of high priced refrigerators.

44. The foregoing facts indicate that the warranty and replacement policies sup-ported by the one member cannot be justified by the theory of relatively higher price, nor by the theory that the provision discriminatory as against the sealed

45. Makers of open-type mechanisms fully expect that their dealers will collect full cost of all service rendered, plus a legitimate profit, after the expiration of the one-year warranty. If they wished to discriminate against makers of sealed mechanisms, presumably they would ask them to follow a similar policy. This they have not done, but, recognizing the difficulty involved in servicing sealed mechanisms and in collecting from users for such service, they have agreed to a schedule of nominal replacement costs which are acceptable to six of the seven makers of sealed refrigerators. Moreover they agree that uncollectable balances may be included as an average cost in the installed price of such machines.

46. It must therefore be evident that this controversy in which the views of manufacturers sponsoring one type of machine are in opposition to views held by makers of a different type of mechanism. It is simply a discussion in which one manufacturer attempts to perpetuate a practice initiated and sponsored by himself in opposition to the considered opinion of all other manufacturers in the group, which includes seven makers of nermetically sealed refrigerator mechan-

47. It is understood that, in principle, the National Recovery Administration desires that industry shall be controlled by such constructive policies as may be agreed upon by a majority in representative trade associations. Here is involved a principle which is supported by 17 out of 18 members of a truly representative trade as-sociation. This principle has been devel-oped as the result of long experience, exhaustive discussion and with full condera-

tion for the minority viewpoint.
48. Finally, because of the far-reaching and harmful effects of warranties, so-called "free service" plans and "free replacement" schemes extending over long periods of time, it is believed that the omission of a clause regulating such practices would result in the devolpment of a code

which would, as the result of such omis-Concluded on Page 10, Column 1)

ir trade by all but persisted.

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lote how these easy-gliding, roller bearing shelves may be taken out and used as trays.

STANDARD MODELS

EQUIPMENT ... Variable Freezing Control, "Perma-Cold" Defroster, Porcelain Chilling Unit, Glass Chilling Tray. HARDWARE . . . 4-Position Latch handle, Semi-Concealed Hinges. Chromium Finish

MODEL 454: 4.6 cu. ft. - SHELF AREA: 9.3 sq.ft. MODEL 554: 5.6cu.ft.—SHELF AREA: 10.5sq.ft.

MODEL 704: 7.01cu.ft.-SHELF AREA: 13.4sq.ft.

This extremely rugged, twin-cylinder compressor is over-size, as is also the motor. Runs less often. Uses less current. Needs less service. Less reason to get out of order.

The Great Outstanding Feature -From Your Standpoint!

PROFITS

The basic purpose of the whole Stewart-Warner Refrigeration sales set-up is to enable you as a dealer to make satisfactory profits. (How can we hold you as a dealer if you DON'T make profits?) The franchise, therefore, is distinctly written from your side of the desk!



Backed by Spectacular Advertising

Program-New Merchandising Plans, Proved and Practical-Sales Plans

With Real Sales Drive in Them-A

Host of New-Type Features That

Make Demonstrations Clinch Sales!

THE big news is out! The unveiling has taken place! Distributors from all over the country have come to inspect it

Joseph E. Otis, Jr. and Frank A. Hiter, with their refrigeration

For the 1934 Stewart-Warner Refrigeration Line definitely

establishes this more than a quarter-of-a-century-old company

Tailored to Your Measure for Sales and Profits!

This great, new Stewart-Warner Line is a highly competitive

one. In Quality! In Finish! In Features! In Eye Appeal! In

Its Advertising Program-both National and Local-is a gen-

The Merchandising and Sales Plans ARE DOWN TO CASES—PRACTICAL—WORKABLE—PROFITABLE! They have

FEATURES? Look some of them over in this ad. There isn't room for all of them. Every one a new type. Improvements

over anything you've ever seen before. They literally "demon-

strate" themselves into sales. Any one of these features is dra-

But the whole story can't be told in this space.

You certainly owe it to yourself to see this line and hear the whole profitable story! Send coupon

been especially developed to make sales for YOU.

matic enough to base a whole sales campaign on!

critically-have gone back home "SOLD"!

in the forefront of the Refrigeration Industry.

erous one. Its theme is spectacular!

Every Way!

below-today!

engineering staff HAVE REALLY DONE IT!

THE STEWART-WARNER REFRIGERATION LINE

FOR 1934!

Positively the Sensation of the Trade



DE LUXE MODELS

EOUIPMENT . . . Automatic Interior Light, New-Type "Forget-Proof" Freezing Control and Defroster, Porcelain Chilling Unit with Chro-mium Plated Door, Porcelain Vegetable Crisper, Glass Chilling Tray. HARDWARE . . . "Feather-Touch" Automatic Door Opener, Semi-Concealed Hinges. Chromium Finish. MODEL 564—"PORCELOID" EXTERIOR—ALL-POR-CELAIN INTERIOR.

MODEL 564-P — ALL-POR-CELAIN EXTERIOR AND IN-TERIOR. 5.6 cu. ft.—SHELF AREA: 11.3 sq. ft.

MODEL 714—"PORCELOID" EXTERIOR—ALL-POR-CELAIN INTERIOR.

MODEL 714-P-ALL-POR-CELAIN EXTERIOR AND IN-TERIOR. 7.1 cu. ft.—SHELF AREA: 13.4 sq. ft.

MODEL 834—"PORCELOID" EXTERIOR—ALL-POR-CELAIN INTERIOR.

MODEL 834-P-ALL-POR-CELAIN EXTERIOR AND IN-TERIOR. 8.3 cu. ft.-SHELF AREA: 17.1 sq. ft.

SAG-PROOF INSULATION—Specially treated and constructed for years of service. Absolutely water-proof, vermin-proof, sag-proof, odorless. Special pure rubber door seal. SANITARY INTERIOR of special heavily-coated porcelain—with new-type design for easy cleaning. "PORCELOID" EXTERIOR FINISH—Hard—glass-like permanently white. Will not mar, chip or peel. Resistant to fruit acids and soap alkalies. FLEXIBLE FAST-FREEZING ICE CUBE TRAYS that flip out cubes in quantities desired.

TALL BOTTLE ROOM-Double shelf capacity for milk bottles, tall ginger ale bottles, etc.



Note the 7 Features **Listed Below**

Any One of Them Is Dramatic Enough to Base a Whole Sales Campaign On!

1. "Feather - Touch," IN-STANT Door Opener. 2. "Forget-Proof" Controls.

3. Roller Bearing Tray

1. Super-Sensitive Temperature Regulator. 5. Slow Cycle Refrigeration

-Over-Size Compressor and Motor. 6. "Freezing Speeds to Suit Your Needs."

7. Super-Sanitary-Electric Lighted Interior.



This "Feather-Touch" Door Opener literally opens at a touch as light as a feather. This latch can be locked when children are around.

----MAIL THIS COUPON TODAY!

Refrigeration Division, Stewart-Warner Corporation, 1841 Diversey Parkway, Chicago, Ill.

Please send me at once complete information on your 1934 Refrigeration Line. I understand this will be done entirely without obligation to me.

	Your Name
	Name of Firm
4	Your Title

Address.



THIS FINGER POINTS to the smartest specialty feature of the year—the "Feather-Touch" Instant Door Opener. It is the first point in your demonstration. And, just as a slight touch on it opens wide the refrigerator door, so does this feature open wide to you a year of greater refrigerator profits in 1934.

Grunow Files Objection to Clause Barring Refrigerant Advertising

(Concluded from Page 8, Column 5) sion, violate Section 3 (a) 2 of the Industrial Recovery Act. which provides—"that such code or codes are not designed to promote monopolies or to eliminate or oppress small enterprises and will not operate to discriminate against them and will tend to effectuate the policy of this title."

Exhibits Filed to Back Up Committee's Warranty Plan

Dealers Protest Long-Term Warranties in Disfavor

Mr. Louis Ruthenberg. Copeland Products Co. Mt. Clemens, Michigan

As Chairman of the Refrigeration Division of the N. E. M. A. permit me to bring to your attention the following resolution which was unanimously adopted at a meeting of this Association on Wednesday. day, April 20, 1932.

RESOLUTION

Whereas a four-year guarantee period has recently been announced by one of the prominent manufacturers of Electrical Refrigeration, and,

Whereas, we believe this to be unneces-Whereas, we believe this to be unnecessary and an opportunity for other manufacturers to grant even longer guarantee periods which would unquestionably react to the detriment of all those engaged in the Electric Refrigeration business, because of increased service costs.

Be It Therefore Resolved that the members of the Wisconsin Radio, Refrigeration, and Appliance Association, request and urge that this matter be carefully conand urge that this matter be carefully considered by the Refrigeration Division of the N. E. M. A., at one of their early sessions, for the purpose of standardizing on a reasonable guarantee to the purchaser, which will not be a handicap to those engaged in the Electric Refrigeration business.

Trusting that this matter will be brought to the attention of your division in the very near future, we are,

W. D. Baker,

Wisconsin Radio, Refrigeration and Appliance Association.

Exhibit G.

George Patterson, Inc. St. Petersburg, Florida General Letter No. D-523 GENERAL ELECTRIC AGAIN LEADS

THE FIELD General Electric was first to give a TWO YEAR GUARANTEE (Competitors

followed) General Electric was first to give a THREE YEAR GUARANTEE (Competi-

tors followed) General Electric was first to give a FOUR YEAR SERVICE CONTRACT (Competitors failed to follow)

AND NOW General Electric is again to offer FIVE YEARS PROTECTION TO THE

CONSUMER. Competitors failed to follow our four year plan and they cannot and will not follow our five year plan. What a wonderful sales story in the hands of aggressive and energetic salesmen. For all practical

purposes we have a FIVE YEAR GUARANTEE One year warranty plus four years replacement contract. Competing sales organiza-tions may make any promises they desire but the final test is

THE MANUFACTURER'S FAITH IN HIS OWN PRODUCT
And that faith is represented by the terms of the manufacturer's guarantee. General Electric expresses that faith by

offering the purchaser FIVE YEARS OF PROTECTION Another powerful sales stimulus has been placed in your hands, another step has been taken forward and ahead of the entire refrigeration sales field. Use it wherever you can. Hit while the iron is hot, it means more sales and more profits.

W. R. Bedell.

Grunow Files Objection To Refrigerants Clause

Objections to Certain Provisions of Proposed Code for the Refrigeration Division of N. E. M. A.

TO: Mr. H. O. King,
Deputy Administrator, N. R. A.
We are advised that the proposed code for the Refrigeration Division of the N. E. M. A. has been revised to include the fol-lowing provision:

"Whereas advertising and sales promotion which deals with refrigerants tend to create in the minds of the public an erroneous impression of the hazards involved in the use of various refrigerants, and whereas such hazards are in fact negwhereas such nazards are in fact negligible, any advertising or sales promotion which may directly or indirectly create such impression shall be held in violation of this code."

We wish to object to the inclusion of this provision in the code for the following

(1) This provision is apparently designed to prevent truthful advertising of the safety of "Carrene" as a refrigerant, as compared with sulphur dioxide and other commonly used refrigerants, which are in act highly dangerous.

(2) This provision is apparently included

(2) This provision is apparently included in the code to benefit manufacturers of household refrigerators using dangerous refrigerants, whose business has been adversely affected because of numerous accidents caused by such dangerous refrigerants, and by publicity given to the safety features of Carrene.

(3) The statement in the above provision that the hazards involved in the use of these various refrigerants are negligi-

sion that the hazards involved in the use of these various refrigerants are negligible, is in fact incorrect; sulphur dioxide and other commonly used refrigerants are in fact dangerous, and may cause serious injury or death.

(4) This provision is apparently intended to prevent this objector, the General Household Utilities Corp., from informing the public of the principal virtue of the Grunow refrigerator—the high

of the Grunow refrigerator—the high degree of safety which it assures because of the use of Carrene as a refrigerant.

(5) It is suggested that this provision be reworded so as to forbid untruthful or dishonest advertising of any sort. This objector would favor such a clause. The present provision is unfair because it seeks to prohibit truthful advertising of the advantages of a new type of house-hold refrigerant — Carrene — which other manufacturers can not refute and therefore find objectionable.

The Commonly Used Refrigerants (Other than Carrene) Are in Fact Highly Dangerous

The most commonly used refrigerants (other than Carrene) are sulphur dioxide and methyl chloride. Approximately 75 per cent of all household automatic refrigerators use sulphur dioxide as a refrigerant. A considerably smaller number use methyl chloride. chloride.

Both of these commonly used refrigerants are dangerous.

Sulphur Dioxide

Sulphur dioxide (SO2) when mixed with the moisture contained in ordinary atmosphere, produces sulphurous acid. Sulphurous acid is a highly dangerous chemical substance. It is more active than sulphuric acid; will cause severe burns of the flesh; and can easily cause death. Sulphur dioxide is particularly danger-ous as a refrigerant because it can only be used in a high-pressure type machine (At 80° room temperature sulphur dioxide will liquefy at a pressure of 45 lbs. per sq. in.; a sulphur dioxide refrigerator can only operate at approximately this pressure.) Because of this pressure, the gas is forced into the atmosphere if any leak occurs in the system. The gas, on escaping into the atmosphere of an ordinary m, immediately produces sulphurous d. This acid will decompose the lining the nostrils and the lungs of any acid. person in the room, causing serious injury

or death where the exposure is prolonged. Methyl Chloride

Methyl chloride (CH3Cl) is inherently dangerous for two reasons: First, it is poisonous and will cause death if inhaled; second, it is inflammable and explosive Methyl chloride can only be used in refrigerators operating under high pres-sure. (At 80° room temperature methyl room temperature methyl chloride liquefles at a pressure of 70 lbs. per sq. in.; a methyl chloride refrigerator can only operate at approximately this pressure.) Any leak in the refrigerating system will force the methyl chloride into the atmosphere. Methyl chloride, being inflammable, ignites readily when mixed with the ordinary atmosphere. An explosion frequently results where this gas has leaked into a room. If the gas does not explode, it may cause death, since it is deadly if inhaled. It is considered particularly dangerous because it has a obnoxious odor to warn of its presence.

Carrene Is in Pact a Safe Refrigerant Carrene is a highly refined form of methylene dichloride. It is a colorless liquid about the consistency of water. It is almost odorless. No odor can be observed unless the liquid is brought within

approximately six inches of the face. It is not inflammable. In fact it makes an excellent fire extinguisher.

It is peculiarly suited for use as a refrigerant because of its low operating pressure. At a room temperature of 80° F. it will vaporize at a pressure of 55 be. refrigerant because of its low operating pressure. At a room temperature of 80° F. it will vaporize at a pressure of 5.5 lbs. per sq. in. less than atmospheric pressure. For this reason it can be used as a refrigerant in a "vacuum system." The Grunow refrigerator is so constructed. In case of a leak in the system the atmosphere rushes in, but there can be no explosion.

Carrene is not injurious and may be

and Pressure Water Coolers

8th SUCCESSFUL YEAR

Territory Open for Responsible Distributors

handled in open containers like ordinary water, without danger. Being non-inflammable and non-injurious, it may be poured into an ordinary room where an open flame is present without any danger to persons in the room. These advantages persons in the room. These advantages of Carrene over other refrigerants are in-disputable and are inherent in the sub-

All of these statements concerning Car-rene and other refrigerants can be easily proved by chemical experiments and actual demonstrations.

Many Accidents Have Actually Resulted from Sulphur Dioxide, Methyl Chloride, and Other Commonly Used Refrigerants Escaping from Automatic Refrigerators.

(1) The Chicago Daily Tribune of July 2, 1929, reported on the first page that a coroner's jury of pathologists and expert chemists had decided that methyl chloride gas escaping from a mechanical refriger-ator in an apartment building had caused the death of a tenant. The coroner's jury recommended that public officials and leaders in industry devise ways and means for the protection of the public against the recurrence of such deaths, and "to take steps to remove from the process the toxic properties which cause sickness and death." The news item reads in part

'Leaders in the industry who said they had millions invested and had done every thing possible to protect the public grumbled over the jury's action."

(2) The Chicago Evening Post of Monday, July 1, 1929, contains a story report-ing that Health Commissioner Kegel had stated that at least 15 persons had died during the past few months of methyl chloride poisoning from mechanical refrigerators. Kegel warned against sleeping in equipped with mechanical refrig-

(3) The Hartford Times of Hartford , of Jan. 3, 1933, reports in a front story that one fireman was killed and three others were overcome by sulphur dioxide fumes from a broken refrig-

erator. (4) The Kansas City Journal-Post on Friday, Sept. 29, 1933, reported in a front page story that 95 families were driven from an apartment hotel and two persons

were badly burned and temporarily blinded by sulphur dioxide fumes escaping from a defective refrigerator.
(5) The Baltimore News of Thursday,
July 6, 1933, reports on the front page
that 76 persons were driven from a tea

room by escaping fumes from an auto-matic refrigerator which had been broken with an ice-pick. (6) The Cincinnati Enquirer of May 25, 33, reported that a dozen families were

routed by sulphur dioxide fumes escaping from a mechanical refrigerator in the (7) The Louisville Courier Journal of

June 5, 1933, reported that police wearing gas masks cut off the leaking mechanism of a refrigerator after the escaping fumes had forced eight persons to flee from the house in the middle of the night.

(8) The Minneapolis Star of April 12, 1933, reported on the first page that sulphur dioxide fumes from an exploding refrigerator overcame a warehouseman who was taken to the hospital, and also a telephone operator who was

revived by a fire department rescue squad.
(9) The Grand Rapids Herald of Nov.
24, 1933, reports that a refrigerator service man was awarded a judgment for \$8,136 against a company manufacturing a sulphur dioxide refrigerator for injuries resulting from inhaling the resulting from the res resulting from inhaling the gas attempting to repair the machine.

No further examples need be cited. Hundreds of similar newspaper stories, all within the past few years, can be produced.

Refrigerator service men are most frequently injured by escaping refrigerants, since they work every day with defective machines. Serious injuries, even blindness, have resulted from these accidents. These injuries occur in spite of the most extreme care on the part of the repairmen, who are fully aware of the dangerous substance with which they must work. Where Carrene is used as a refrigerant, all danger to the repairmen is must work. eliminated.

Certain manufacturers now make and advertise a gas mask to be used by repairmen working on sulphur dioxide ma-

well-known manufacturer of a sulphur dioxide machine includes in its service manual a section on "first aid," showing proper treatment for persons overcome by sulphur dioxide fumes, and emergency measures to be taken where sulphur dioxide is splashed into the eyes.

A Number of Cities Have Enacted Safety Ordinances in an Effort to Prevent Serious Accidents from the Escape of Dangerous Refrigerants

Alarmed by the frequent accidents from caping refrigerants, a number of cities have enacted ordinances regulating the installation and inspection of refrigerating systems and the amount of dangerous refrigerants which may be used.

For example, the City of Chicago, prior to 1931, enacted a comprehensive refrigeration ordinance (Revised Chicago Code,

1931, Busch-Hornstein, p. 1283, Art. XVI, Secs. 3474-3486.)

The ordinance clearly recognizes that safety measures are required to prevent accidents from ordinary refrigerants. The ordinance provides:

"No refrigerating system shall be placed in wards and private rooms of hospitals or asylums, cell blocks of prisons, or any place where people are confined or are place wh helpless.

The ordinance has special provisions concerning "flammable or irritant refrigerants," and states that:

"No refrigerating system using a flam-mable or irritant refrigerant or any part thereof shall be placed, located, or maintained in:

tained in:

"(1) Any room, dinette, or kitchenette used for sleeping purposes.

"(2) Any room having an adjoining alcove, adjoining room, or suite of rooms, any part of which is used for sleeping purposes, the combined cubicle content of which room is less than four thousand (4,000) cubic feet," unless such rooms are provided with very ample window space open to the outside air, at least half of which can be readily opened.

The ordinance also provides that:

"All poisonous or tox!c refrigerants

"All poisonous or toxic refrigerants

used in any direct system of refrigeration shall have a distinct and easily detectable oder or characteristic irritating proper-

Another provision requires that plans and specifications of any proposed refrigerating plant shall be submitted which "shall show the kind and amount of refrigerant used."

ordinance provides for numerous safety devices where irritant or flammable refrigerants are employed. This Chicago ordinance was enacted

several years prior to the introduction o. Carrene as a household refrigerant and several years prior to the time when the refrigerators were first constructed.

Conclusion

For the refrigerating code to prohibit all advertising which "may directly or indirectly create the impression" that there are "hazards involved in the use of various refrigerants" seems, in view of these facts, to be directly opposed to public policy. It appears to be an effort to muzzle the truth for the benefit of the makers and sellers of more dangerous makers and sellers of more dangerous machines. The Administration is asked to approve a code provision stating that "such hazards are in fact negligible." when death or injury result almost daily from the use of one or more of these dangerous refrigerants.

While the makers of inferior, dangerous goods will benefit from the suppression of the truth concerning a superior product, in the meantime the public will be injured. No code should deprive a manufacturer of the right to tell the truth about his

own product, even where as here "the truth hurts." This objector accordingly suggests that the provision be amended to prevent only "untruthful" or "dishonest" advertising.

General Household Utilities Corp.

By H. C. Coit, Gen. Mgr. per J. A. Sprow!

Grunow Proposes New Advertising Clause

Objections to Certain Provisions of the Proposed Supplemental Code for Refrigeration Division of N.E.M.A.

To: Mr. H. O. King, Deputy Administrator, N.R.A.,

Washington, D. C.

We wish to object to the following provisions of the Supplemental Code for the Refrigeration Division of N.E.M.A. for the following reasons:

(1) Article III, subsection (d) reads as

"Employers shall refrain from wilful or malicious defamation of competitors and from disparagement of competitors' products.

We suggest this section be amended to Employers shall not make or publish

untruthful statements concerning competitors or competitor's products."

We object to this section as now written because it will prevent honest discussion by salesmen of objectionable features of a competitor's product. By forbidding "disparagement of competitors' products," the truthful statement by salesmen of the limitations and defects of competitor's products is also forbidden. The code should prohibit only untruthful or dishonest statements. "Defamation of competitors" should of course be prohibited if the defamatory statements are untrue. A true statement of a derogatory type might be considered defamatory. True statements reflecting on a competitor

should be permitted. (2) Article IV, subsection (a) reads as

No representation of a character calculated to mislead the uninformed or casual reader shall be used. All statements made in advertising or sales promotion shall be complete and so phrased as to convey to casual and uninformed reader the full and complete facts.

This clause should be deleted. It is objectionable because it requires the exactness and completeness of detail of a scientific treatise in the field of advertis-ing. The paragraph is apparently intended to prevent the use of "half truths" which are in fact no more than misstatements. Such indirect misstatements should be prevented. But if refrigerator advertising copy is required to be as complete as the prospectus for a bond issue, the effectiveness of the advertising for any purpose

will be destroyed.

(3) Article IV, subsection (b) reads as

"Advertising and sales promotion shall contain no representation of a negative character. Positive and truthful statements may be made concerning the advantages of the product, features of the product, company, and its methods of doing business. No misrepresentation, however, shall be made concerning the disadvantages of other products, features of products or concerning competitors' methods of doing business. Statements in advertising or sales promotion regarding competitors, competitors' methods of do-ing business or competitors' products, may be made when the employer is prepared to substantiate legally such statements. The use of inference or innuendo is strict-

ly prohibited under this code."
We suggest that Article IV as now written be entirely eliminated and the following substituted:

"Article IV—Advertising and Sales Promotion"

"No untruthful, false, or dishonest state-ment shall be made, either directly or by inference, in the course of any advertising or sales promotion, concerning the prod-uct sold, the selling company, or concerning any competitor or any competitor's product.
"As used herein advertising and sales

promotion shall include magazine and newspaper advertising, billboards, radio broadcasting, organization bulletins, catalogues, pamphlets, hand bills, direct mail material, and verbal or printed presenta-

Subsection (b), as now written, is objectionable for several reasons.

(a) Negative statements in advertising

(a) Negative statements in advertising should not be prohibited. If the negative statements are true, they are no more objectionable than positive statements which are true. It is difficult to detect

refrigerator does not make a noise" and the statement "this refrigerator is silent." (b) The provision that statements in advertising or sales promotion regarding competitors may be made when the advertiser is prepared "to substantiate legally such statements" is too loose. Under this it might be successfully contended that teterments could be safely mode. Provided statements could be safely made, provided only some evidence in their support could be produced. Since evidence can be found

any difference between the statement "this

to support almost any assertion, truthful or untruthful, the test is too broad. It is suggested that the test should be whether or not the statements made are true. (c) The provision "the use of inference or innuendo is strictly prohibited under this code" should be eliminated. This provision would prohibit legitimate inference as well as unfair and misleading inference. The following substitute is

suggested: untrue or false statements shall be made, either directly or by inference, in any advertising or sales promotion."

(4) Article IV, subsection (d) reads as

"Used competitive apparatus shall not be "Used competitive apparatus shall not be accepted in partial payment for the products of the industry for sums greater than will be realized in the re-sale of such used products or apparatus, and allowances made in exchange for such apparatus shall take into account the costs of reconditioning and re-scaling."

ing and re-selling."

This provision is objectionable because its effect is limited to "competitive"—should be eliminated; with this change the provision may be properly retained as

a separate article or section.

This section is apparently designed to eliminate an indirect means of selling below cost or of price camouflaging, by the granting of excessive allowances for used machines. If so, the purpose of the section is proper. However, as the pro-vision stands, a company is restricted or limited as to the amount it might offer on a trade-in. The used machine being of its own make would not come within the phrase "used competitive apparatus." However, a competitor company would be limited as to the amount it might allow for the machine and would thus be at a decided disadvantage because of this

rovision.
It would appear that this provision has been cleverly designed to assist compa-nies having a large number of machines already in use to retain their large market by allowing them to offer more attractive trade-in values. The word "competitive" should be eliminated.

Article IV, subsection (f) reads as

"Whereas advertising and sales promo-tion which deals with refrigerants tend to create in the minds of the public an erroneous impression of the hazards involved in the use of various refrigerants, and whereas such hazards are in fact negligible, any advertising or sales pro-motion which may directly or indirectly create such impression shall be held in violation of this code."

This paragraph is highly objectionable for reasons stated in a separate protest filed with the Deputy Administrator.

Article V, subsection (b) should not set forth a rigid dollars and cents schedule as a part of the code. All changes in the code must be approved by the President of the United States and for that reason changes in this schedule which might be required by changes in price level or other market conditions would be difficult to accomplish. It would be pre-ferable to have this schedule in some form of regulations under the code, changeable at the vote of the Code

Authority.
General Household Utilities Corp., By J. A. Sprowl. Jan. 19, 1934.

Mr. James A. Sprowl c/o Hopkins, Starr & Godman 110 South Dearborn St., Chicago, Ill. Re: Proposed Supplemental Code Refrigeration Division, NEMA

This will acknowledge your letter of Jan. 17 and of course, I am very much pleased that you have been able to reach an agreement in connection with clause (f) of Article IV of the proposed Supplemental Code.

mental Code.

For your information a preliminary conference is to be held Jan. 23, in Room 3043, Department of Commerce building, Washington, D. C., at which time it is hoped that any difficulties existing in the industry, can be ironed out so that th's code can be put through at the public hearing on the 29th without any further difficulty. difficulty.

J. G. Cowling, Assistant Deputy Administrator.

Objections Withdrawn By Grunow after Conference

Hopkins, Starr & Godman Lawyers Chicago Jan. 17, 1934.

Re: Proposed Code—Refrigeration Division—N.E.M.A. Col. J. G. Cowling, Assistant Deputy, N.R.A., Washington, D. C.

Pursuant to the suggestion made by you at the Jan. 5 conference at Washington, Mr. Coit, chairman of the board of General Household Utilities Co., and I attended the meeting of the Refrigeration Division of the N.E.M.A. held at the Drake hotel in Chicago Jan. 9. At this conference an understanding was reached satisfactory to all parties concerning the provisions of the proposed refrigeration code. Clause (f) of Article IV was redrafted by mutual agreement to read as

follows:

"No false, untrue, misleading, or derogatory statements shall be made, either directly or by inference, in any advertising or sales promotion concerning the product advertised or any competitive product, nor shall any statement be made the effect of which will be to mislead the public with respect to other products."

With this change the code as proposed is satisfactory to the General Household Utilities Co. This letter is to notify you that all objections to the code filed by the General Household Utilities Co. are

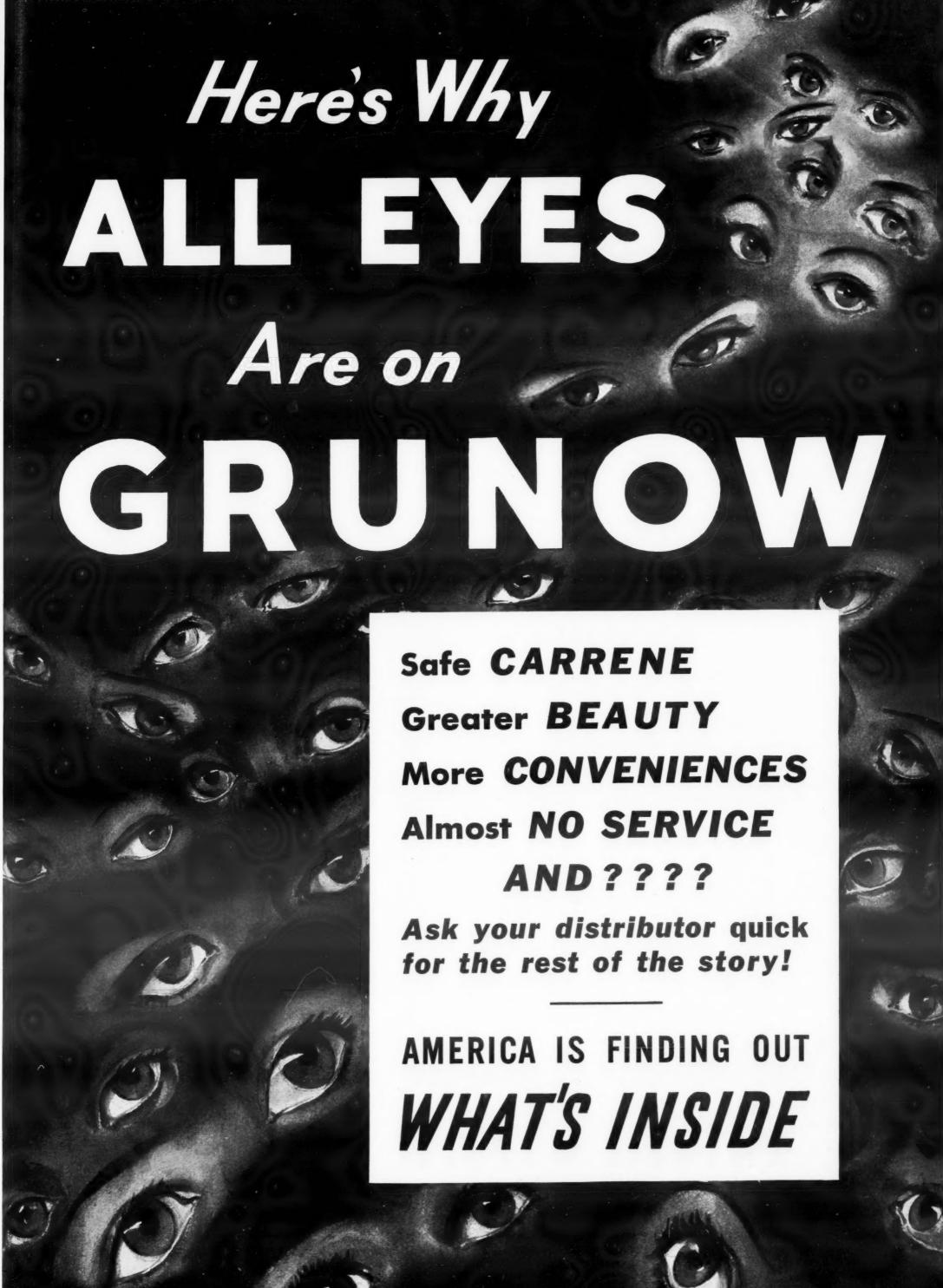
that all objections to the code filed by the General Household Utilities Co. are hereby withdrawn.

James A. Sprowl.

COMPRESSORS ONE OF AMERICA'S LARGEST QUALITY LINES —covering 47 capacities and types including air cooled, air and water cooled combination, and all water cooled compressors for all domestic and commercial applications. 1/6 to 3 H.P. also Complete Household Line, 4 to 7 cu. ft.

MERCHANT & EVANS CO., Manufacturers PHILADELPHIA, PA. Est. 1860 LANCASTER, PA.

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The Newspaper of the Industry



Written to Be Read on Arrival

Published Every Week by

BUSINESS NEWS PUBLISHING CO.
Also publishers of Refrigerated Food News (monthly) and
Refrigeration Directory and Market Data Book (annual)
550 Maccabees Building, Woodward Ave. and Putnam St.
Detroit, Michigan. Telephones: Columbia 4242-4243-4244-4245

Subscription Rates—U. S. and Possessions and all countries in the Pan-American Postal Union: \$3.00 per year; 2 years for \$5.00. Canada: \$6.00 per year (due to special tariff). All Other Countries: \$5.00 per year (U. S. Money)

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To encourage the development of the art.
To promote ethical practices in the business.
To foster friendly relations throughout the industry.
To provide a clearing house for new methods and ideas.
To broadcast the technical, commercial, and personal

vol. 11, No. 6, Serial No. 255, February 7, 1934

Making More Money

NE of the commonest criticisms of the electric refrigeration industry is that "nobody has made any money out of it." Radio, it has been pointed out, produced a number of millionaires (Powel Crosley, Bill Grunow, and "Cap" Sparks—all of whom are now making refrigerators also—are cases in point and "close to home"). No millionaires seem to have appeared as a result of the refrigeration business, however.

True, concerns like General Electric, Frigidaire, Norge, and Westinghouse may have made a good deal of money out of the business. In fact, the president of one of the largest refrigeration manufacturers, which is a part of a still larger corporation, is quoted as having said that refrigeration has paid the dividends of his mighty corporation for the last few years. But whether or not these big concerns are making money few will ever know, because their profit-and-loss statements become part of the statements of their parent corporations, and are thus lost in the general shuffle.

Some Huge Losses

Kelvinator, it is true, has been showing interesting profit statements. So has Universal Cooler. On the other hand, some of the other "independent" manufacturers have registered huge losses. So big were some of these losses in 1933 that the industry as a whole, in spite of enjoying its biggest year, is probably in the red for that year.

To pursue the matter further, there was a time not so long ago when refrigeration distributors were "going busted" with dismaying rapidity. Keeping up-to-date the files of distributors here at ELECTRIC REFRIGERATION NEWS was, for instance, a tough problem in 1932. Franchises were being changed in various cities seemingly overnight.

Bolstering Distributing Organizations

Most of the larger manufacturers had to reach into the sock and pass some of their own money around in order to keep their distribution organizations intact. General Electric and Westinghouse reverted to their Supply House factory jobbers in some sections. Frigidaire established more and more branches to fill the breach. Other manufacturers were left completely uncovered in many territories. And so it went.

Dealers-and we know this, also, from our

files here at ELECTRIC REFRIGERATION NEWS—passed out by the hundreds in 1932 and 1933. Some went out of business; more simply scratched refrigerators off their list of merchandise for sale. Many dealers, the good ones, found the sale of electric refrigerators quite profitable. The poor ones, and these are in the vast majority, didn't make enough to suit them.

Earnings of Salesmen

The case can be carried still further. If a salesman made \$1,200 selling electric refrigerators in 1933 he was a humdinger. The very best in all the nation—men like the G-E Toppers, the Norge Vikings, the Westinghouse Quota Busters, and the Frigidaire BTU Club—generally earned from \$2,000 to \$3,000 per annum. A handful of outstanding exceptions piled up commissions totalling \$4,000 to \$5,000.

Why no more money in selling electric refrigerators? Some would blame it on public utility merchandising. Others say the department stores are cutting in too much on the business of the independent dealer. Another reason assigned is foolish greed on the part of manufacturers, distributors, and dealers. Perhaps the best reason is a surplus of competition.

Industry Over-Expanded

Too many manufacturers, too many distributors, and too many dealers—all in the same concentrated territories—helped the depression push prices downward. Sometimes prices were knocked down by cutting the quality of the product; more often by reducing the discounts. With the lower retail prices, small discounts, and reduced volume, it was darned hard for most sales organizations to come out even in 1932.

Lest this story appear too lugubrious as to the past and perhaps just wanly hopeful as to the future, it should be inserted that good distributors and dealers, like good manufacturers, have found that refrigeration has done mighty well by papa. Profits of several distributors last year ran into three figures. We know of dealers, and even of salesmen, who have wintered in Florida. The point is that the industry has in the past been overcrowded; and for this reason, plenty of worthy organizations have had their growth choked, like vegetables in a weed-infested plot, by too much competition.

Situation Improved

Last year this situation was bettered considerably. As indicated previously, considerable numbers of retail outlets were wiped off the slate. The fly-by-night manufacturers disappeared like the locusts. Even a few substantial manufacturers were forced to drop out of the running.

For the 1934 race the entrants lining up at the barrier are less numerous than they have been in years. To borrow a sporting phrase, each is "plenty tough." But they are practically all substantial, constructive manufacturers who are keenly interested in seeing that everybody concerned makes money out of the business. And they are hoping that the NRA and its codes will help them in this endeavor.

"Foolish Greed"

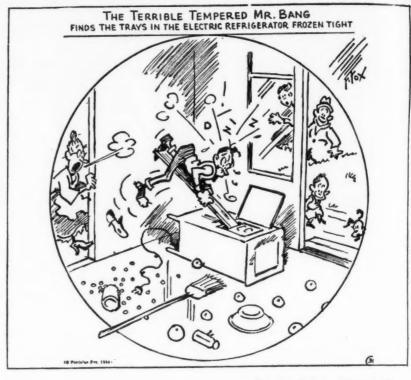
The accusation of "foolish greed," mentioned before, has been made and hammered home at convention after convention of distributors and dealers this spring. By cutting discounts to dealers, salesmanagers point out, some distributors have sliced their own profits by reducing their volume. Likewise, skimping on salesmen's commissions has materially injured many dealers by cutting their volume. Figures are trotted out at almost every convention to prove that the most successful dealers and distributors are those which are not niggardly with salesmen's commissions.

Rising prices this year, plus more substantial discounts, indicate to some observers that the money-making period of the refrigeration industry may be arriving. And it will be, the skeptics are sure to observe, about time.

TOONERVILLE FOLKS

By Fontaine Fox

day



-Reprinted from Detroit Times

LETTERS

Profitable & Satisfactory

Frank H. Clay Co. 322 N. Rose St., Kalamazoo, Mich. Jan. 27, 1934. Editor:

You must excuse our not making a reply to your letter of Jan. 4. We held a dealers' meeting last week which took up a lot of our time, but the results were gratifying to the extreme. We contacted several new dealers and had about 50 of our old ones spend the evening with us.

You asked me to send you a picture. I am afraid that you would lose quite a good many subscribers should you have the writer's face shown in your splendid paper. However, I am only too glad to answer your questions.

1. Our experience in the refrigerator business in 1933 was not only profitable but VERY satisfactory.

2. We increased our dealers by about 50 per cent over 1932, and we intend to increase at least another 25 or 30 per cent during 1934.

per cent during 1934.
3. (a) The future outlook for electric refrigeration is very good from our viewpoint. The middle class are beginning to find out that it's much cheaper and better than ice as it saves food that ice will not take care of.

(b) Air conditioning we are not versed in.

(c) Same applies to beer coolers.

(c) Same applies to beer coolers.
(d) We sold commercial refrigeration for a couple of years but believe there's more profit to be made with the same efforts on domestic lines.

(e) We have sold Crosley radios ever since he began making them and hope to continue for many years to come as we believe it is the best selling line on the market today, or at least our dealers say they do not have to sell them—WLW does it for them.

We started the oil burner business a few months ago and it looks like a mighty good item. We also sell vacuum cleaners and washing machines, electric clocks, and household utilities, and enjoy a good trade on those items.

FRANK H. CLAY.

Good Pictures

Good Housekeeping 919 N. Michigan Avenue Chicago, Ill.

Chicago, III. Jan. 15, 1934.

Editor:

This office of Good Housekeeping is a subscriber and a regular reader of your excellent publication. I find it very helpful in my work with the electric refrigeration manufacturers I call

Your Jan. 3 issue is extremely interesting because of your photographic efforts. I am curious to know what camera and lens you are using. The results you are getting are very good.

J. H. DRAPER.

Controversy Settled

Scott-Newcomb, Inc. 1922 Pine St., St. Louis Editor:

This informs you that all outstanding litigation and other controversies between Electrol, Inc., and Scott-Newcomb, Inc., have been settled and concluded.

The foregoing statement is given you on behalf of both companies.

Lewis L. Scorr, President.

Crosley New Head Of Cincinnati Reds

CINCINNATI, Feb. 5.—Powel Crosley, Jr., head of the Crosley Radio Corp., has agreed to become president of the Cincinnati Reds, National League Baseball team, according to statements made today by L. S. Mac-Phail, executive vice president of the club.

Mr. Crosley heads a syndicate that is taking over complete control of the ball club from the Central Trust Co. of this city.

"Mr. Crosley was convinced that the 'Reds' perform a definite civic service for the city, and on this account has agreed to accept the presidency of the club, and has invested money in it," Mr. MacPhail declared.

Accountants' Status Described by Lewis

DETROIT — "Accountants must sharpen their pencils and help sales departments work out and create sales policies that will make for greater liquidity of stockholders' current assets in these days of the 'New Deal'," declared Howard Lewis, treasurer of Kelvinator Corp. in addressing a recent meeting of the Detroit Chapter, National Association of Cost Accountants.

tional Association of Cost Accountants.

Mr. Lewis declared that "the high cost of distribution really comes down to the habits of the American people, for they want new and improved things, and they want them when they want them, and they want a lot

of service when they buy them."

While from the manufacturer's viewpoint it sometimes may seem to cost a lot of money to merchandise a produce by the jobber-dealer route, Mr. Lewis pointed out, the jobber shoulders immense responsibilities and expense for the manufacturer, such as locating retail outlets, warehousing, detailed clerical work, and credit risks.

"Manufacturers are often torn between the two ideas of larger volume and smaller gross profit, and smaller volume with larger gross profit on each sale," Mr. Lewis stated. "If the gross profit is too high the manufacturer well knows that he invites competition, paves the way for imitators, and unduly limits his market.

Mr. Lewis recommended shorter periods of collection and quicker turnover of inventories, to enable the manufacturer to finance more sales, grant larger discounts to distributors, lower prices to consumers, appropriate more money for advertising, operate at a lower cost and increase ultimate gross profits.

The speaker warned against the danger of branch offices piling up inventories, crowding sales, over-accumulating receivables, and then being poor collectors and winding up with a stock of bad debts.

Commenting on accounting problems connected with branch operations, Mr. Lewis said: "We all know of some famous cases in past years when certain firms treated as profits, sales made to their branches, and showed a fictitious profit."

Rheiner Heads Eastern Division of M & E

PHILADELPHIA — H. S. Rheiner has been appointed as eastern division field representative for Merchant & Evans electric refrigeration, according to F. E. Wilson, sales manager.

ing to F. E. Wilson, sales manager.

Mr. Rheiner was formerly eastern regional manager for Trupar Mfg. Co., manufacturer of Mayflower electric refrigerators.

Men Hold Meeting

DAYTON - With "improved operations" as their slogan and objective, some 75 installation and service managers of Frigidaire organizations from all parts of the country held their annual meeting Tuesday and Wednes-day, Jan. 30 and 31, at the Engineers'

Chief speaker was Charles F. Kettering, vice president of General Motors in charge of research. R. E. Smithson, Frigidaire installation service manager, was in charge of the convention and presided at the meet-

Other Speakers

Other speakers included H. S. Turner, assistant service manager; H. J. Wildenhaus, supervisor of field opera-tions; R. K. Eley, technical supervisor; D. P. Wiesner, education supervisor; Norman Potter, vice president, United Motors Service; and Denny Madden, service manager for Delco Products

Three winners of the 1933 suggestion contest ("How to Improve Frigidaire Products") were honored at the convention. Winners in this contest were D. D. Trivette of G. W. Mann & Co., West Palm Beach, Fla., first; Leo Vox, Checker Motor Supply Co., Cedar Rapids, Iowa, second; and C. H. Heck, C. F. Rufe, H. L. Williams, and R. J. Fogel, all of the Lehigh Valley Supply Co., Allentown, Pa., third.

Educational Schools

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Included in the 1934 operation of the installation and service department is an educational school to be held in the main offices of every Frigidaire dis-

tributing operation in the country.

These schools opened Feb. 5 and will continue for two months. Program for these schools is broken down into three phases of activity-household, commercial, and air conditioning.

63 Utilities Men Visit Westinghouse Plants

CHICAGO - Following a two-day conference here, commercial managers of all Middle West Utilities' branches, accompanied by executives from Chicago headquarters, last week made a tour of Westinghouse properties in Mansfield and Cleveland, Ohio, to study ways of promoting appliance

The 63 men arrived in Mansfield on the morning of Jan. 24, and spent most of the day in meetings addressed by managers of each Westinghouse mer-chandising division — refrigeration, ranges, water heaters, laundry equipment, vacuum cleaners, heating appliances, and fans.

They also made a trip through the factory to inspect the refrigerator and range assembly lines. In the late afternoon, the utility men left for Cleveland, where they inspected the Westinghouse lighting studios at Edge-water Park, and the company's kit-

chen and laundry displays in the Cleveland News building. On Thursday, the men returned to Chicago for a final review session on



Frigidaire Service | General Wholesale Code Dictates Practices For Trade

WASHINGTON, D. C .- The general code for the wholesale or distributing trade which was made effective Jan. 22 includes two important trade practice divisions—one projecting a plan for the creation of proper price differ-entials for distributors and dealers and the other prohibiting sales at wholesale prices to others than the distributor's employes.

Article 8, section 1, of the code provides that in any division of the dis-tributing trade in which manufacturers sell to several classes of buyers, the Divisional Code Authority may arrange for a conference for the purpose of defining and establishing price differentials which shall be fair and reasonable in relation to the nature and extent of the distributing services and functions rendered by each buying

It is also declared, however, that nothing in this clause shall be con-strued to abridge the right of manufacturers to sell direct to retailers.

Sales at Wholesale

Article 7, section 1, declares that it shall be an unfair trade practice for wholesalers who secure a substantial portion of their business from members of the retail trade to sell merchandise at wholesale prices to con-sumers for personal use, unless the merchandise sold is for the use of the distributor's own employe.

Other unfair trade practices defined

under the code include the inaccurate advertising, false billing, inaccurate labelling, inaccurate references to competitors, threats of law suits, secret rebates, bribing employes, inter-ference with another's contracts, and

Commodity Divisions Formed

To provide an effective procedure for the administration of the general wholesale code, and all supplemental codes, the distributing trade is divided into commodity divisions, included in which are the radio and electrical supplies divisions.

Provisions governing special practices in the various commodity divisions may be embodied in a supplemental code for each division, after a hearing before the administrator and approval by the President.

The General Code Authority is to

consist of one or more members (the precise number to be determined by the administrator) of each Divisional Code Authority, such members to be elected by the members of each Divisional Code Authority.

The Divisional Code Authority for each division is to be composed of not less than three nor more than 21 wholesalers or distributors in each division, such members to be elected.

Functions of Code Authority

Functions of the Divisional Code Authority are set forth in the code as follows:

(1) It shall require from wholesalers or distributors in the division which it represents such reports as are necessary to effectuate the purposes of the general code; and

(2) It may, upon its own initiative or complaint of any wholesaler or dis-tributors in such division, make investigations as to the functioning and observance of any provision of the general code; and

(3) It may hear and attempt to adjust such complaints.

G-E Holds Commercial Refrigeration School

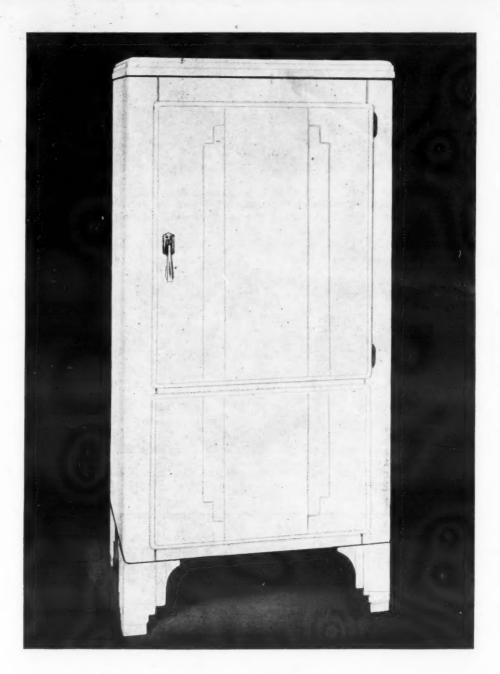
FORT WAYNE, Ind.—General Electric Co.'s commercial refrigeration division has just concluded a series of eight schools for distributors' product managers at which they received detailed instruction on service and installation of commercial equipment, and studied new applications for their products.

Five of the schools were held on the west coast, and three at the company's commercial refrigeration plant in this city. The western schools were held in Los Angeles, San Francisco, Portland, Butte, and Salt Lake City by J. H. Stubbs and A. J. Scaife of the Cleveland product division, and A. A. Nerling of San Francisco, west coast product representative.

W. C. Noll, manager of G-E's refrig-eration product division, opened the three Fort Wayne schools, and Mr. Stubbs presided at them. One day of every Fort Wayne school, each of which lasted five days, was devoted to Russ beer-cooling equipment. Dean Seitz of Cleveland's Russ Soda Fountain Co. led these discussions.

Other speakers at the meetings in Fort Wayne were D. D. Wile, research engineer of the Detroit Lubricator Co., who talked on thermostatic expansion valves, and W. L. Brown of the Chase Brass & Copper Co. in Chicago, who

discussed Chase sweat type fittings. Every General Electric distributing organization in the country was represented at the conferences, according to Mr. Noll.



The NEW CABINETS



SAINT PAUL

With DULUX Finish

In the future, all Residence Cabinets by Seeger will be built with the new Dulux Finish—a sparkling white finish, and a modern advance in unusual beauty, strength and durability. This new finish will give dealers and distributors of Cabinets by Seeger a new and accurate story about refrigerator finishes, as Dulux gives:

A hard but flexible and tenacious finish-

A durable finish that resists moisture, protects against corrosion, with exceptional resistance to household oils, greases, acids and abrasives—

This beautiful white pre-tested finish on a Cabinet by Seeger offers the best there is in Modern Refrigeration Cabinets for the Home.

There are many different styles and sizes in the Seeger Residence Line of Cabinetsall with reliability built into them.

The modern aristocratic beauty of the exterior makes sales easier, while the convenience of the interior and low cost of operation are an inducement to new sales.

May we tell you about the New Line of Residence Cabinets by Seeger with Dulux Finish? Write for Folder with detailed description.

SEEGER REFRIGERATOR COMPANY

SAINT PAUL, MINNESOTA

New York - Los Angeles - Chicago - Boston - Buffalo - Philadelphia











(1) We like this friendly picture of P. B. Zimmerman, G-E chief. It was taken at dinner on the Queen of Bermuda, while he was listening to one of "Socker" Coe's stories. (2) Art Scaife, Phil Harrison (Newark distributor) and wife, in the ship's night club. (3) Sales Promotion Manager Walter Daily on shipboard, after a good meal. (4) Ann Pennington laughs heartily at an afterdinner story told her by a Topper. (5) X. F. Sutton, president of Sound Films, Inc., refused to believe that we could take snapshots by ordinary artificial light, so we had him pose specially.











President J. H. Hirsch of Automatic Burner Corp. phones home he'll be late for dinner. (2) Examining the mechanism. (3) Curiosity may have killed a cat, but just one little peek behind the curtains didn't hurt these distributors. (4) Going over the figures. (4) The best drink after all-particularly during a long afternoon of engineering discussions.

BY GEORGE F. TAUBENECK ---

More Toppers' Notes

LEE WOOD, sales promotion manager for BILL DRISCOLL (G-E distributor down in Charlotte, N. C.,), says that their chief competition down there is Kelvinator.

A certain one of his salesmen has never lost a sale to Kelvinator wher. he uses the Brooder (a G-E sales tool) in his presentation. When he doesn't, he loses about half his sales to competition.

The salesman knows this, yet, says Lee, it's hard as the devil to get that salesman to use the Brooder.

Most of us are like that, Lee observes. If we know what's good for us, we hate like sin to do it.

Repulsion - Start - Induction

Squirrel-Cage

T.

Capacitor

Resilient-Mounted

Three women Toppers were aboard the ship. One of these, famed JENNIE PAYNE of New York, is to be the subject of a special "How" story in an early issue of the News. Mrs. Payne is a five-year Topper.

Another, Miss E. KNIGHT of Lansing, Mich., is going to rate a special call from a member of the News staff. Our Mr. HERRON, we think, would enjoy that.

But about Mrs. MATHILDE (pro-nounced "Mateel") BALDWIN of Newark we want to talk about right here and now.

In contrast to GEORGE KAHN, mentioned in the last issue on this page, Mrs. Baldwin never canvasses. Merely follows up leads turned into the retail store out of which she works, or leads given her by friends and users.

Mrs. Baldwin is our idea of what a saleswoman should be like. Herself a housewife, she talks to women in language they can understand, and knows how to appeal to prospects with selling points that stick.

She's an honest, motherly soul, well bred, well groomed, and well educated, and—best of all—she's feminine. None of your hard-boiled, aggressive female saleslady type in her. Hence she inspires confidence and trust.

For four years she has been selling Monitor Tops in PHIL HARRISON's territory, and three of these years she has been a Topper.

Perhaps the most experienced of all

the salesmen on the trip was R. G. WILLIAMS, who has been selling electric refrigerators in Brooklyn for 15 years.

During that time he has sold Kelvinator, Frigidaire, and General Electric refrigerators. He's a Rex Cole man now, working in Flatbush.

In Flatbush today, he states, satura tion is so high that in an area 45 blocks square there are only 12 homes without mechanical refrigeration! Tie that, if you can.

Replacement business in his territory is commencing to be good. And he says that the addition of other appliances-ranges, dishwashers, laundry equipment, and the like—is proving to be a life saver.

GEORGE PIERCE of Boston, commercial manager for W. L. THOMP-SON, had another unusual story to tell. In four years of selling refrigeration equipment to grocery stores and meat markets he has had but four

And the last four years, as any commercial manager can tell you, have been sonsaguns for reverts on food market equipment. Distributors and manufacturers have gone broke in that time for that very reason.

H. W. GIFFORD, likable retail sales manager for DICK COOPER, headed up a lively delegation from Chicago. "Giff" stayed in Bermuda for an extra week, as did GEORGE KAHN and "HEINIE" GROW.

DAVE MacGILLIVRAY of the Chicago gang was very much in evidence, as were D. D. McMINN, H. M. GEIS-MAN, G. H. FRUECHTENICHT, SAM KARR, and W. H. LEAHY.

GEORGE LARSNESS, one of the Chicago delegation, is now in charge

LARKIN

100% VERTICAL

SURFACE COILS

LARKIN

HUMI-TEMP

UNIT COOLERS

LARKIN

VACUUM PLATE

MATTER

of Cooper's water cooling department, working under Commercial Manager LOU KOHLMAN.

In his new job he will continue to contact syndicates and architects for national business. He has been with the Cooper organization since 1928.

We could write all night on the interesting Toppers and G-E leaders on the trip.

There was "Colonel" GLEN WAS-SON, distributor from 'way out yonder Texas, f'rinstance, suave, diplomatic, and poker-faced.

Then there was JOE MALONEY, sales promotion manager for the Boston distributorship (no relation to TREFF MALONEY, sales promotion manager for the Boston Norge distributorship).

Joe, a Hahvahd man, bears an uncanny resemblance to AL UHALT, director of the G-E dealer division at Cleveland.

This resemblance caused no end of embarrassment to wives and others who rushed up to greet him, and then found he was a total stranger.

Genial BOB STEVENSON, highly respected general manager of Rex Cole, Inc., E. HAMILTON CAMP-BELL, sales promotion manager, and HOWARD JENKS, commercial manager of the New York distributing operation, led a flock of Rex Cole men.

Among the most interesting and informative of this group were JOSEPH LEIPZIGER, commercial engineer, J. J. FOX, handsome and athletic Brooklyn apartment house salesman, BILL ARONSTEIN, like-wise, H. O. H. QUINN, and TOMMY

In DICK EVANS' Pittsburgh gang were C. W. KELLY, a capital yarn-(Concluded on Page 15, Column 1)

You can

Standardize on Wagner Motors

The Wagner line includes all types of small motors generally applied on refrigerators, making it possible for you to standardize on Wagner motors. Whether alternating or direct current; single or polyphase; open, dripproof or totally enclosed; rigid or resilientmounted, flange-mounted or built-in-there's a Wagner motor now in existence, ready to be applied on the job.

There are some 25,000 different typehorsepower-speed combinations of Wagner motors (in ratings of 1/30 to 400 hp.). Certainly, your motor requirements can be met by the Wagner line!

> For complete details, ask for Bulletin 167 describing Wagner small motors.

Wagner Electric Corporation

6400 Plymouth Avenue, Saint Louis, U.S.A.



Direct - Current

Built-In

Flange-Mounted

COILS

L ARKIN Coil Service is Complete and Quick. From our large line, choose the type of refrigeration you want with confidence that Larkin Products provide the best in each

PREFERENCE

Larkin 100% Vertical Surface Coils and Larkin Humi-Temp Unit Coolers are available f.o.b. Atlanta, Chicago, or Brooklyn.

Larkin Vacuum Plate Coils, f.o.b. Atlanta only.

Special Coils f.o.b. Atlanta only. See your distributor.

Larkin Refrigerating Corp.

Atlanta, Ga.



BY GEORGE F. TAUBENECK ---

(Concluded from Page 14, Column 5) spinner, J. L. GIBSON, GEORGE SWEIGERT, CHARLEY DOWNS of Oil City, and R. B. BAKER, a former bank director who has been selling refrigerators for the last nine months. and who sold \$6,000 worth in August.

"BARON" ROTHSCHILD, a salesman for James & Co., had a swell time on the trip.

Oh. yes. Forgot to mention that ANN PENNINGTON was on the returning boat.

The following Toppers were guests of General Electric on the trip: Alabama Refrigeration Co.—Lonnie C. Henley, Montgomery, Ala.

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Clark Adams, Inc.—H. J. Preston, Jr., Atlantic City, N. J. Ahrens Refrigerator Co.—T. F. Chronister, Tulsa; R. S. Maxwell and S. T. Simp-

son, both of Oklahoma City.

W. D. Alexander Co.—O. C. Hubert, Decatur, Ga,; W. N. Floyd and W. L. Mc-

Daniel, both of Atlanta.

Bard, Barger, Inc.—G. C. Heil, Cincinnati; L. P. Hoover, Dayton; D. E. Tatem, and I. M. Ink, both of Columbus, Ohio.

H. G. Bogart Co.—Arthur Garn and M. E. Kumle, both of Toledo.

E. Kumle, both of Toledo.

Breckenridge, Inc.—F. E. Deeley, Holyoke, Mass.; J. H. Lamson, Pittsfield, Mass., and C. A. Field, Cheshire, Mass.

Judson C. Burns—E. E. Murray and J. R. Bradley, both of Wilmington; G. G. Kahn, S. D. Schaefer, J. J. Willi, M. Segal, and C. Samsel, all of Philadelphia; H. Eldridge, Princeton, N. J.

Caswell Inc.—H. Witheek, Detroit: L.

Caswell, Inc.—H. Witbeck, Detroit; L. Lapp, Grosse Pointe, Mich.; C. D. Brown, Kalamazoo, Mich., and Miss E. Knight,

Lansing, Mich. Rex Cole, Inc.—Robert Stevenson, vice president and general manager; E. Hamilton Campbell, sales promotion manager.

ton Campbell, sales promotion manager.
G. P. Robinson, V. E. Daniels, T. S. Peterson, J. J. Fox, E. C. Herbert, E. P. Lull, and C. S. Witherspoon, apartment house dept.
L. H. Jenks, H. O. H. Quinn, J. F. Vernon, Jr., John Ammann, William Aronstein, Uda B. Kronenberg, Joseph Leipziger, and J. Desmond Phelan, commercial

dept. A. Black, W. J. Clark, R. G. Williams, J.

M. Delaney, E. G. Doderer, C. D'Orazio, R. Gihon, I. Gluck, R. Kearns, J. M. Kelly, C. J. Koch, C. L. Krug, J. D. Loscalzo, M. Martin, F. C. Newman, W. Noah, J. F. Sweetnam, F. K. Taft, and W. Thompson, retail dept.

retail dept.

F. W. Beck, White Plains; T. W. Mayer, Bridgeport; R. A. Bishop, Nyack, N. Y.; P. W. Cummings, Greenwich, Conn.; A. J. Hess, Patchogue, N. Y.; L. W. Hodes, White Plains, N. Y.; R. A. Kamens, Bridgeport, Conn.; A. Kramp and J. K. Kromholz, both of White Plains, N. Y.; G. R. Lampert, Greenwich, Conn.; P. C. Meyer, White Plains, N. Y.; A. F. Mushinske, Patchogue, N. Y.; J. E. Pratt, Bridgeport, Conn.; T. Stratton, Patchogue, N. Y.; J. Sullivan, White Plains, N. Y., and Miss Albina Zavis, Patchogue, N. Y., wholesale dept.

Mrs. R. A. Bishop, Mrs. J. M. Delaney, Miss T. Gardner, Mrs. L. W. Hodes, E. Jones, Mrs. C. J. Koch, Mrs. U. B. Kronenberg, L. N. Lucas, Mrs. T. W. Mayer, Miss Helen McCourt, Mr. and Mrs. R. K. Merritt, Sydney Mormar, Mrs. M. Ranson, Mrs. R. W. Thompson, Mrs. J. F. Vernon, Jr., Mrs. R. G. Williams, and Mrs. C. S. Witherspoon, elegats

Jr., Mrs. R. G. Williams, and Mrs. C. S. Witherspoon, guests.

B. Cooper Jr., Inc.—Tom Olson, Berwyn, Ill.; M. C. Dean, Deerfield, Ill.; G. A. Holmes, Forest Park, Ill.; P. N. Scott, A. Holmes, Forest Park, Ill.; P. N. Scott, A. Hunt, W. H. Ericson, J. F. Eme, S. W. G. Whitmer, R. L. Weinman, E. E. Noell, D. D. McMinn, H. M. Geisman, G. O. Doty, E. M. Brady, and L. J. Baron, all of Chicago; G. H. Fruechtenicht, Oak Park, Ill.; G. R. Larsness, Joliet, Ill.; H. J. H. H. J. E. Robinson, H. L. Cagney, H. W. Gifford, vice president in charge of retail sales; H. C. Hockett, Sam Karr, Dave MacGillivray, W. H. Leahy, L. A. McKen-

MacGillivray, W. H. Leahy, L. A. McKen-zie and wife, S. B. Maher, F. A. Ramsdell and wife, H. A. Rose, S. E. Thompson, and G. W. Zander, all of Chicago.

E. O. Cone Co .- B. Sherrod, Lubbock E. Pulver Cook, Inc .- T. Chaffin, Hyannis, Mass., and E. Renehan, Edgewood,

Crescent Elec. Supply Co.-L. G. Elfers, Muscatine, Iowa.

L. W. Driscoll, Inc.—R. K. Weeks, Wilmington, N. C.; C. Beck and P. A. Wilson, both of Winston Salem, N. C. Electric Home Appliance Co.—W. E. Samuels and R. E. Yates, both of Charles-

Electric Household Appliances, Inc.—H. R. Helm, Longview, Texas; S. H. Hemphill, Tyler, Texas; R. M. Lawler, Dallas; L. T. Allen, Ft. Worth, and W. I. Wilt, Dallas.

Edmundson Refrigerating Corp.-H. C.

Electrical Housekeeping, Inc.—F. J. Hop-perton, Lakewood, Ohio; A. S. Kosser, E. Cleveland, H. B. Fisher, Canton, Ohio; C. R. Davis, Shaker Heights, Ohio.

R. Davis, Shaker Heights, Ohio.

G-E Supply Corp., Boston—A. J. Saunders, East Pepperell, Mass., and F. C. Milliken, Portland, Maine.

G-E Supply Corp., Des Moines—L. J. Bergin, Mason City, Ia.

G-E Supply Corp., St. Paul — David Rachlin, Duluth, Minn.

G-E Supply Corp., Salt Lake City— J.

R. Tribe, and Guy Child, both of Ogden, Utah.

G-E Supply Corp., Butte—D. D. Foss, Hamilton, Mont., and H. G. Krouskop, Missoula, Mont.

Missoula, Mont.

Glueck & Co.—H. J. Fichtner, Topeka, Kans.; W. M. Sause and H. C. Davis, both of Kansas City, Kans.

Gould Farmer Co., Inc.—R. H. Erness, Rochester, N. Y.; S. E. Chappell and E. D. Ayers, both of Syracuse, N. Y.

Phillip H. Harrison Co.—Frank White, East Orange, N. J.; Jack Ruff, Newark, N. J.; Mathilde Baldwin, Montclair, N. J.; Russel Hev. Hackensack, N. J.; Louis N. J.; Russel Hey, Hackensack, N. J.; Louis Thatheimen, Paterson, N. J.; Richard Hab-erman, and Pete Musto, both of Jersey

Hines Co.—J. L. Myers, Annapolis, Md.; W. Reitz, Cumberland, Md., and L. K. Blucher, Baltimore, Md. W. N. Hogan, Inc.—O. G. Ebeling, Wheel-

ing, W. Va. Hoosier Elec. Refrigerator Corp.—R. B. Fisher and L. A. Gregory, both of Indianapolis, Ind.

James & Co., Inc.—Maurice Rothschild, George Marting, and A. H. Schenk, all of St. Louis, Mo.; W. F. Henley, Nashville, Ill., and A. J. Crivello, Alton, Ill. A. Wayne Merriam, Inc.—J. E. Stokes

and L. B. Holt, both of Schenectady, and Robert Kayne, Gloversville, N. Y.

Modern Home Utilities, Inc.—G. W. Zurcher, Hartford, Conn.; W. B. Luby, Wallington, Conn., and J. L. Payne, Waterford, Conn. R. S. Montgomery, Inc.—G. D. Hunter, Roanoke, Va.; S. B. Vaughan, Richmond, Va., and A. L. Shelton, Danville, Va.

National Electrical Supply Co.—S. Carroll, College Park, Md.; J. A. Barringer, A. P. Shanklin, and G. W. Cabell, all of Washington, D. C.

O'Bannon Bros.—F. P. Best, Wynne, Ark. Ochitree Elec. Co.—J. L. Gibson, New Castle, Pa.; C. F. Downs, Oil City, Pa.; R. E. Baker, G. E. Sweigert, and C. W. Kelly, all of Pittsburgh.

N. K. Ovalle, Inc.—C. R. Freed, Lebanon, Pa.; J. P. Morris, Altoona, Pa.; B. L. Wentz, Paxtang, Pa., and K. Roberts, Lewiston. Pa.

Lewiston, Pa.

Lewiston, Pa.

George Patterson, Inc.—D. A. Boggess,
W. Palm Beach, Fla., and W. F. Kurz, N.
Miami Beach, Fla.

Perry-Browne, Inc.—H. S. McKeown,
Spartanburg, S. C.; S. M. Pierson, Hartsville, S. C., and E. M. Craig,, Greenville,
S. C.

S. C. E. H. Schaefer Corp.—E. F. Ulbricht,

Milwaukee, Wis.

Southern—L. D. Pepper, Jr., Greenwood,
Miss., and L. S. Doherty, Baton Rouge,

B. K. Sweeney, Inc.—R. C. Elliott, Grand Junction, Colo.

Tennessee Appliances—H. A. Davisson, Memphis, Tenn., and J. E. Douglass, Nashville, Tenn.

W. L. Thompson, Inc.—K. W. Knott, Milton, Mass.; D. W. Cooper, Quincy, Mass.; L. M. Tozier, Saxonville, Mass.; T. Mass.; L. M. Tozier, Saxonvine, Mass.; T. L. Smith, Roslindale, Mass.; A. H. Hayward, Dorchester, Mass.; C. A. Norris, Lynn, Mass.; G. Irwin, Andover, Mass., and J. S. Bracy, Medford, Mass.

A. H. Thompson Sterling Co.—H. C. Short, Lexington, Ky., and T. J. Trunnell, New Albany, Ind.

New Albany, Ind.
Storz Electric Refrigeration Co.—C. F.
Blackford, St. Joseph, Mo., and J. H. Carson, Maryville, Mo.
Frank W. Wolf, Inc.—J. J. O'Connell and

C. W. Mahon, both of Buffalo, N. Y.; W. L. Brush and G. A. Webber, both of Ken-more, N. Y.; L. N. Zimmerman, N. Tona-wanda, N. Y.

Motor Service Moves To Larger Quarters

PHILADELPHIA - Larger quarters for servicing and repairing refrigeration motors have just been taken over by the Electric Refrigeration Motor Co. of this city. New address of the company is 1825 Wylie St.

The move was made in view of a 28% increase in sales during 1933 over 1932, according to George C. Tatem, sales manager of the company. Capacity of the new plant will be about 150 refrigeration motors per day.

Melchior, Armstrong Moves Main Office

NEW YORK CITY-Main office of Melchior, Armstrong, Dessau Co. here was moved last week from 116 Broad St. to larger quarters at 300 Fourth Ave., according to J. J. Marshall, general sales manager of the company. General offices of the organization

now occupy more than 4,000 sq. ft. in the new location, and below these are a stockroom and warehouse occupying an additional 6,300 sq. ft.

The company, which exports refrig-eration supplies and also serves as a manufacturers' representative jobber on the domestic market, now has a Philadelphia branch under management of Sam Fretz, and a Boston branch headed by Henry A. Dolan.

Kelvinator Organizes **Utilities Division**

DETROIT-Kelvinator Corp. is increasing the scope of its public utility activity this year and has created a special public utility division of the ales department whch will be under the direction of Campbell Wood.

Seven field representatives who will spend their time in the field contacting utilities have been appointed to assist Mr. Wood. The field representatives, all of whom have been previously connected with Kelvinator in various capacities, include:

R. I. Eshman, S. A. Kelsey, G. E. Wagoner, W. L. Durhamer, T. L. Craig, W. C. Stephenson, A. S. Terry, and Murray McLeish.

Walsh Resigns as Timken Sales Manager

DETROIT - E. V. Walsh, for six years general sales manager, and more recently vice president in charge of sales, of the Timken Silent Automatic Co., resigned Jan. 23.



Another exclusive Delco feature **AUTOMATIC END-PLAY TAKE-UP** . . . eliminating all **END-PLAY NOISE**

N ELECTRIC motor entirely free from end-play noise is absolutely essential when used with a belt-driven compressor. With ordinary motors the continual whipping of the belt causes a longitudinal movement of the rotor and because this movement is not cushioned, objectionable end-play noises will develop. In Delco motors, however, the

cork end-play take-up cushions the movements of the rotor and so provides permanent protection against end-play noise. No adjustments are necessary, as the cork receives proper lubrication and will not wear out. This is only one of the exclusive features of Delco motors . . . investigate Delco when selecting a motor for a new compressor.

DELCO PRODUCTS CORPORATION, DAYTON, OHIO

ENGINEERING

Use of Electric Melting Furnace Makes Supplying of Iron Castings to Specifications Possible

By R. G. McElwee, General Manager D. J. Ryan Foundry Co., Ecorse, Michigan

EVERY iron foundryman is painfully aware of the constant competition from outside his own industry. He has seen specifications on part after part changed from cast iron to steel, to welded assemblies made from rolled steel, to stampings and to forgings. If this attack were to continue with increasing vigor, the sparks from the cupola stack would be seen less frequently. Fewer molders would report for work and *

fewer cars would be noticed on the foundry spur.

The progressive foundryman resolutely determined to do something

The idea of specializing in sash weights did not appeal to him, and he realized that in order to hold his place in the markets of industry he would have to transform cast iron into a reliable engineering material.

Some time ago it became perfectly apparent that we not only had to produce a higher strength product with greater dependability, but we should have to be in a position to guarantee that product's physical properties.

The machine designer is not especially interested in what strengths may occasionally be attained in individual castings regardless of how high these strengths may be. He does want to know what physical properties he can count on in all the castings furnished

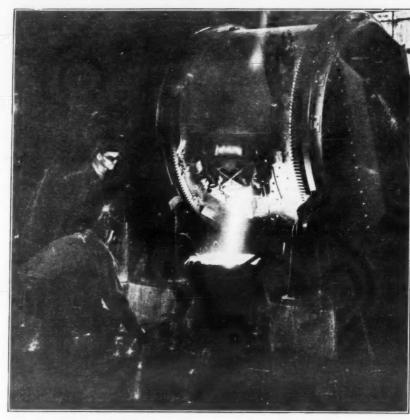
him under a given specification.

These conditions were accepted and we are now supplying castings to specification, guaranteeing their physical properties. Obviously we cannot comply with conflicting specifications. Where both physical and chemical analysis are specified, a choice has to be made between them if they conflict.

If we are free to work out the analysis as our experience dictates, then we do not hesitate to guarantee up to 100,000 lbs. per sq. in. tensile strength in the castings we furnish.

It was recognized at the start, of course, that in order to sell castings on such a basis we would have to obtain much closer control of all of our operations, particularly melting. Accordingly, a rocking indirect-arc electric melting furnace was installed, and a metallurgical laboratory organized to guide our operations.

Pouring from Electric Furnace



Molten metal for castings is poured from a rocking indirect-arc electric melting furnace at the Ryan foundry in Ecorse.

Melting Methods

Now, neither cupola iron nor the cupola as melting equipment need be condemned. Lots of mighty fine iron has come from the cupola. We operate cupolas right here in our own plant. We have grown up with the cupola, we known all its peculiarities—also its limitations. We know that in producing the newer high strength irons, extremely close control is essential—closer, in fact, than can be attained exclusively in cupola melting.

exclusively in cupola melting.

Complete solution of the graphite nuclei found in pig iron cannot be attained at a melting temperature of 2800° F., which is as high a temperature as the average cupola will develop. But maximum strengths demand a radical change in the form of this graphite, and superheating is one of the necessary factors in its transformation.

Electric furnace melting allows us to raise this temperature to 3100° F., if necessary, although as a matter of fact we normally find it unnecessary to exceed 2950° F. When molten iron is held a short period of time at this temperature, all the large graphite nuclei pass into solution and the carbides are disseminated uniformly throughout the body of the metal. The actual pouring temperature ranges from 2650 to 2700° F.

In the cupola, melting temperatures cannot be controlled closer than 200° F. In the electric furnace, we can hold temperatures to within 50° of the value set.

In the cupola, the molten metal cannot be held for refining. In the electric furnace, the time-temperature element is under absolute control. The molten metal can be held in the electric furnace as long as desired, and at the desired temperature without danger of gas contamination or objectionable carbon or sulphur pick-up.

Good Melting Stock Essential

Best castings cannot be made with inferior metals. We exercise the same rigid control of our scrap and pig that we do in our melting, molding and sand conditioning.

S. A. E. 1010 steel scrap is used which, incidentally, comes from the punch press operations in a plant making automobile wheels. These pieces of scrap are discs ¼ in. thick and 6 in. in diameter.

The use of mixed scrap bought on the open market would unquestionably lower our material costs, but it would also increase the difficulty of our analysis control. For instance we have observed fragments of structural steel scrap which contained as high as 25 points of chomium. Chromium is not particularly harmful in the structural steel, but for certain types of cast iron its effect would be disastrous. Borings are an ideal melting material for the rocking furnace, provided they can be properly classified.

Metallurgical Control

All high strength and special irons are either cold melted or duplexed in the electric furnace because of the greater flexibility and closer control possible with this type of equipment. In any given day's run in a jobbing foundry, the floor will show a variety of castings eventually to be used in a

of castings eventually to be used in a variety of services and which therefore should have widely different physical properties if they are to meet future operating requirements successfully.

In cupola practice, the foundryman is forced to proportion his charge so that the resulting metal will best meet the requirements of the average of these castings. Marginal cases on either side of this average will inevitably suffer because of incorrect analysis. When cupola iron is once melted,

When cupola iron is once melted, there is very little opportunity to vary its composition. Ladle additions are practically the only means of doing this, and ladle additions of more than 2 per cent cannot be made because of the excessive cooling of the metal. Nor can the carbon content of normal cupola iron be reduced sufficiently to meet the requirements of modern high-strength casting practice.

In the electric furnace, additions of any amount of alloying materials may be made as frequently as desired. The analysis of electric furnace iron may be varied for each individual casting if necessary. The bath does not lose silicon and does not pick up appreciable amounts of carbon and sulphur. For high-strength irons we hold total carbon to approximately 3 per cent and silicon to about 2 per cent.

With electric furnace operation, the

With electric furnace operation, the difference between the calculated value of silicon and carbon will show a variation of only 5 points when compared with the laboratory analysis of this iron in the casting. The variation in manganese can be held to 2½ points. We hold sulphur and phosphorus to a maximum of 0.04 per cent.

It is interesting that we never have lost a heat of electric furnace iron, and no electric furnace iron is ever pigged because it is too cold to pour. Practically all the alloying elements for cupola operation must be furnished in a form the melting point of which is sufficiently low to be absorbed at cupola temperatures. This restriction is removed when melting is done electrically. The low melting point alloys used in the cupola are considerably more expensive than the forms having a higher melting point available for electric furnace operation.

Titanium is a very good example of MARINETTE - - WISCONSIN

this and one which frequently is used in our operations. Ferro titanium at from 23 cents to 25 cents a pound is required for cupola iron. In the electric furnace we use ferro carbon titanium, which has a very much higher melting point but which costs only 7 cents a pound.

cents a pound.

Molybdenum for electric furnace melting costs approximately 80 cents a pound in comparison with 95 cents for the lower melting point compound used in the cupola. The same holds true for nickel and other alloys.

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Special Developments

In an industrial area such as that in and around Detroit, it is estimated that from 25 to 30 per cent of the casting tonnage demands the close control and wide latitude made possible by electric furnace melting. And this percentage is constantly increasing as industry becomes conscious of the real economies of modern cast iron.

Some of the newer developments on which we are working are Diesel engine cylinders, die casting machine pots, Diesel valve heads cast on steel stems, and refrigerator castings.

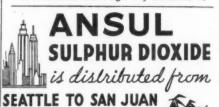
In a fuel injection pump for Diesel

engines, we supply a very close grained gray cast iron having a Brinell of 223 and which is readily machinable. After this casting is machined, it is o.l quenched from 1500° F. and drawn two hours at 500° F.

The quench and draw raises the Brinell hardness to approximately 500. This special iron shows no distortion in heat treatment. It has a uniform growth of only 0.02 per cent which is compensated for in the machining operation.

When this part is made of carburized steel, the heat-treat temperature must be raised to 1750° F. and a grinding operation must follow the quench because of the distortion that invariably accompanies heat treatment.

We have developed a white iron for (Concluded on Page 17, Column 1)



No matter where you are located . . . from Seattle, Washington to San Juan, Porto Rico . . . from Montreal, Quebec to Los Angeles, California . . . there is a warehouse near you carrying an ample stock of Ansul Sulphur Dioxide.

Write today for the nearest warehouse location and full prices.

ANSUL METHYL CHLORIDE, a product of low moisture and acid content, is now available in any quantity, spot or contract shipments. Sizes of cylinders and complete prices will be gladly furnished.

ANSUL CHEMICAL COMPANY

MELCO REG. U.S. PART. OFF For Service

MELCHIOR, ARMSTRONG, DESSAU CO.

announce the removal of their New York offices, stockroom and warehouse on February 9, 1934, to

300 FOURTH AVENUE, NEW YORK CITY
Telephone: Algonquin 4-9400

The growth of business has called for larger quarters in the center of the Refrigeration District. Here we shall be able to give our customers even better service than heretofore.

Our friends are cordially invited to visit us.

Distributors, dealers and service men will be interested in our complete stock.

EVERYTHING IN REFRIGERATION

Just what you would Specify...

Maximum Insulating Efficiency

Stronger More Substantial Cabinets

No Heat-Leaking Cracks or Joints

Clean Odorless Waterproofed Sanitary



PRECISELY the conditions and results engineers demand in the insulation of refrigerators are completely assured when Celotex is the material selected.

It is extensively used in this field because especially manufactured for the purpose, to make certain the maximum of insulating efficiency.

Whatever your own special requirements may be, Celotex engineers of wide experience are at your service without obligation.

Here are advantages you can rely on absolutely: When Celotex is used there are no patchwork jobs—no heat-leaking cracks or joints. A single board of Celotex, cut just the right length, width and thickness, covers each insulated area.

Celotex makes a stronger, more substantial cabinet because it is light in weight yet reinforces the framework. It actually adds structural strength.

Celotex is a Cane Fibre product. The long, tough fibres are carefully sterilized. They are water-proofed—odorless. Celotex makes a sanitary cabinet.

Another Exclusive Advantage—Celotex is made under the exclusive Ferox Process (patented) which protects it from Fungus Growth, Dry Rot and Termites.

THE CELOTEX COMPANY CHICAGO, ILLINOIS

CELOTEX

Reg. U. S. Pat. Off.

A Cooler insulated with Celotex—an example of the use and adaptability of this product to the refrigeration field.

Iron Castings Built To Specifications

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(Concluded from Page 16, Column 5) heat treatment that responds much more readily to this treatment than does standard malleable. We get a perfectly white fracture with silicon at

With a 24-haur anneal, this iron develops a tensile strength of from 90,-000 to 100,000 lbs. per sq. in. It has a yield point of between 70,000 and 80,-000 lbs. and an elongation of 6 per cent. It is the material used for auto-mobile crank shafts and cam shafts, and is suitable for the master cylinders of hydraulic brake mechanisms because of its density and strength. The microstructure of ordinary mal-

leable is almost wholly ferrite with the usual temper carbon dispersed throughout the matrix. Some of the special trade-named irons offer a struc-ture somewhat improved in that pearlite predominates.

However, the temper carbon grains, even in these irons, are surrounded by islands of ferrite. In the metal we have developed, the matrix is entirely spheroidized pearlite. The temper carbon is absolutely free of surrounding

Operating Costs

Notwithstanding the advantages of electric melting over straight cupola melting, we find the cost of the former to be only about 5 per cent above the latter. Our comparison is based on ten

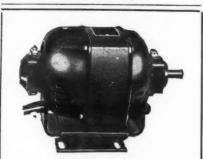
months operation of a type CC 2½-ton Detroit electric rocking furnace.

Our power consumption for cold melting runs 570 kwh. per ton and for duplexing between 90 and 110 kwh. per ton. Melting rate on cold charges is

ton. Melting rate on cold charges is 0.85 tons per hour and on duplexed charges 3.25 tons per hour.
Electrode consumption when cold melting is 7½ pounds per ton. We have used both high density and soft electrodes, but find practically no difference in unit cost. The high density electrode is preferred because of its electrode is preferred because of its higher mechanical strength.

Our refractory experience has shown Mullite brick to give satisfactory results. We operate with two shells, both carrying an 11-in. Mullite lining with Tercod door brick, sill blocks, lintel and door jamb. Bricks and cement are

used for patching.
A lining of this character gives us 400-500 heats or more than 400 tons of molten metal with a total refractory cost of 92 cents a ton, which in consideration of the wide variety of product and the high temperatures involved, seems satisfactory.



The Resilient Flange Mounting of the Leland

is of particular interest to the refrigerator manufacturer. Because of it, Leland motors have met with favorable reception in this highly specialized field.

Leland designs so mounted operate without transmission of noise and vibration-important in compressor drives.

This special mounting also protects against shaft misalignment with respect to the base - another important point.

No radio interference—also due largely to the Leland resilient type of mounting.

Obtain a resiliently mounted Leland motor for comparison and test. You will be surprised.



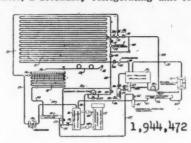
The Leland Electric Company Dayton, Ohio Canadian

PATENTS

Issued Jan. 23, 1934

1,944,472. ART OF REFRIGERATION. Harry Sloan, Ernst S. H. Baars, and Charles G. Bach, Milwaukee, Wis., assignors to The Vilter Manufacturing Co., Milwaukee, Wis., a corporation of Wisconsin. Application Sept. 22, 1930. Serial No. 483,526. 10 Claims. (Cl. 62—115.)

In combination, a primary refrigerat-ing unit including a high pressure accumu-lator, a secondary refrigerating unit com-



prising an evaporator the inlet of which is adapted to receive refrigerant from a relatively low temperature portion of said high pressure accumulator, a low pressure accumulator communicating with the discharge of said evaporator, and means for delivering additional refrigerant from said delivering additional refrigerant from said low pressure accumulator to said inlet.

1,944,617. REFRIGERATING APPARATUS. Otto M. Summers, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a corporation of Delaware. Application Jan. 30, 1928. Serial No. 250,367. Renewed Feb. 1, 1933. 14 Claims. (Cl. 62—95.)

3. A unit for a refrigerating system comprising a wall, a tube with a flat side in thermal contact with said wall, said tube having an integral fin.

1,944,618. REFRIGERATOR CAR DOOR AND THE LIKE Edward A. Sweeley, Alexandria, Va., and Norman T. Ander-son, Washington, D. C. Application July 29, 1932. Serial No. 626,128. 5 Claims. (Cl.

20—35.)

1. A door including upright end posts and upright end stiles having their ajacent faces rabbeter to form oppositely disposed off-set portions, spaced one from the other, a cushion pad applied to a face of one of the off-sets of the door posts and extending substantially from top to bottom of the door, and canvas extended across the face of said cushion pad and continued over the outwardly extending faces of the face of said cushion pad and continued over the outwardly extending faces of the rabbeted portions of the posts toward the outer and inner faces of the door, said canvas having its opposite ends lapped where it lies between the rabbeted faces of the end posts and door stiles, at opposite sides of the door, and presenting outwardly evposed folds of the lapped canvas at opposite sides of the door, said canvas being secured to the door posts.

1,944,699. AIR CONDITIONING SYSTEM. Duncan J. Stewart, Rockford, Ill., assign-or to Howard D. Colman, Rockford, Ill. Application May 26, 1980. Serial No. 455,787. 2 Claims. (Cl. 236—74.)

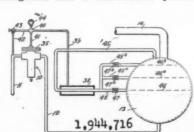
Application May 26, 1930. Serial No. 405,787.

2 Claims, (Cl. 236—74.)

2. In an air conditioning system, the combination of a regulating device, an induction motor for actuating said device having a stator with a primary winding thereon constantly excited by alternating current during the operation of said system and producing a magnetic field threading the rotor of said motor, a starting coil composed of a relatively large number of turns and having currents induced therein by said magnetic field when the coil is short-circuited whereby to initiate rotation of said rotor, and a sensitive control instrumentality having a switch means of the open contact type operated in response to changes in the condition of the surrounding air and adapted to short-circuit said coil and thereby initiate rotation of said rotor and to interrupt the coil circuit whereby to render the same ineffectual. whereby to render the same ineffectual.

1,944,716. APPARATUS FOR CONTROLLING THE LEVEL OF LIQUIDS. Henry H. Marshall, Highland Park, N. J., assignor, by mesne assignments, to Carrier Research Corp., Newark, N. J., a corporation of New Jersey. Application May 14, 1930 Serial No. 452 216, 10 Caims (C.) 1930. Serial No. 452,216. 10 Claims. (Cl.

1. In a refrigerating system, the combination with a container receiving liquid refrigerant and a thermostatic pressure



reducing valve for controlling the level of liquid refrigerant in said container, of a thermal unit connected with said valve to operate the same and means for varying the temperature of said thermal unit in accordance with variations in liquid level in said container and thereby operating the valve to maintain a pre-determined liquid level in said container, such temperature varying means including a pipe to cooperate with said thermal unit in determining the temperature of the latter, means for connecting said pipe at one side of said thermal unit with said container at different predetermined levels to be maintained, and a connection between said pipe at the other side of said thermal unit with said container at a point higher than any of said predetermined levels.

1,944,726. COOLING DEVICE. James Aiken, Forest Hills, N. Y. Application March 18, 1932. Serial No. 599,839. 5 Claims. (Cl. 62-1.)

1. A cooling device of the character described comprising a thin-walled member containing a liquid to be frozen, annular corrugations in the walls of said member to permit expansion, and a stem whereby the said member may be immersed in and may serve to mix or stir the liquid to be

1,944,740. COMBINED AUTOMATIC AND MANUAL CIRCUIT-CONTROL DEVICES. Leonard P. Hutt, Schenectady, N. Y., assignor to General Electric Co., a corporation of New York. Original application Feb. 28, 1930. Serial No. 432,204. Divided and this application Aug. 5, 1932. Serial No. 627,590. 7 Claims. (Cl. 62—4.)

1. In combination, an electric refrigerator control device including a base, a motor controlling switch mechanism



mounted on said base responsive to premounted on said base responsive to pre-determined temperature and overload con-ditions to control a refrigerator motor, a motor controlling resistor mounted on said base responsive to overload condi-tions, motor controlling electro-responsive means on said base, said switch mechan-ism, resistor and electro-responsive means being electrically interconnected to pro-vide a controlling circuit for a refrigera-tor motor, rigid contacts extending through tor motor, rigid contacts extending through said base and electrically connected to said resistor, switch mechanism, and electro-responsive means, an independently mounted sub-panel carrying thereon resilt-ent motor circuit contact members elec-trically connected to the refrigerator mo-

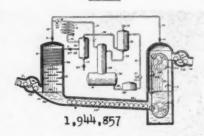
tor, said rigid contacts and resilient con tact members being arranged in cooperating spaced relation to provide quick detachable electrical connections for said control device.

1,944,799. REFRIGERATION. Ernest B. Miller, Baltimore, Md., assignor by mesne assignments, to Chester F. Hackley, receiver for The Silica Gel Corp., Baltimore, Md., a corporation of Maryland. Application March 14, 1929. Serial No. 347,032. 42 Claims. (Cl. 62-5.)

1. Refrigeration apparatus comprising a condenser, an adsorber, a heater for said adsorber and single means to circulate heat from said heater over said adsorber and air independently over said condenser.

1,944,839. MANUFACTURE OF ETHYL CHLORIDE FROM PETROLEUM REFINERY GAS. Eric B. Hjerpe, Pittsburgh, and William A. Gruse, Wilkinsburg, Pa., assignors to Gulf Refining Co., Pittsburgh, Pa., a corporation of Texas. Application April 8, 1932. Serial No. 604,076. 8 Claims. (Cl. 260—166).

1. The process of manufacturing ethyl chloride from petroleum refinery gas which comprises fractionating ethylene and lower boiling constituents from ethane and higher boiling constituents; contacting the lower boiling fraction in the presence of a chlorination catalyst, with hydrogen chloride in combining proportions to convert the ethylene content into ethyl chloride; subjecting the product to scrubbing with a relatively non-volatile petroleum absorbent oil; and distilling the ethyl chloride from the absorbent oil thereby separately obtaining it.



1,944,857. QUICK FREEZING PROCESS 1,94,307. QUICK FREEZING PROCESS AND REFRIGERANT. Harold V. Atwell, Hammond, Ind., assignor to Standard Oil Co., Chicago, Ill., a corporation of Indiana. Application June 19, 1931. Serial No. 545,-541. 6 Claims. (Cl. 62—104.)

1. In apparatus for freezing food, a 1. In apparatus for freezing food, a closed system comprising a container for a liquid refrigerant, means for regulating the pressure in said container whereby the refrigerant boils at about —20 to —35° C., and sealed gates for passing food into and out of said container, whereby the pressure in the container is not materially altered by the introduction of food therein or the removal of food therefrom.



A New Kramer Product ICE CUBE MAKER

180 and 288 lb. capacity for 24 hours 720 and 1152 cubes per freezing

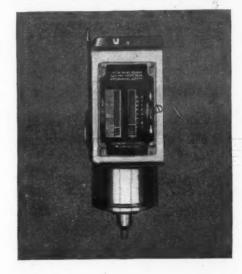
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SIDE VIEW, SHOWING VISIBLE SCALES



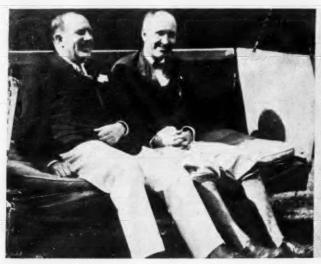
REFRIGERATION TEMPERATURE CONTROL, T413

INNEAPOLIS-HONEYWELL refrigeration controls are built for accuracy and sensitivity, yet their utter simplicity and sturdy construction enable them to provide the efficient and trouble free operation characteristic of all Minneapolis-Honeywell products... They are available in models with all desired temperature and pressure ranges and are adaptable to all types of commercial installations, including industrial processes, breweries or beer dispensing equipment and air conditioning applications of all kinds . . . Visible scales, locking and leveling devices and Con-Tac-Tor Mercury Switches, are features which contribute to the unequalled performance of these refrigeration controls . . . Minneapolis-Honeywell Regulator Company, 2807 Fourth Avenue South, Minneapolis, Minnesota. Branch and distributing offices in all principal cities.

MINNEAPOLIS-HONEYWELL

Control Systems

General Electric's Leading Salesmen Invade Bermuda







(1) Vernon Daniels of the apartment house division, Rex Cole, Inc., rests with John Convery, retail sales manager, Judson C. Burns, Inc. (2) H. H. Bosworth, manager, central station division (in the driver's seat); C. L. Dunn, new business manager, Ohio Public Service Co.; Mrs. Bosworth set out to see the countryside. (3) P. B. Zimmerman, Robert Aitken, G-E distributor, Hamilton, Bermuda; and Charles Francis Coe, just before alighting from a Bermuda "taxi" for 18 holes of golf. They seem to be dubious about the uncertain weather.



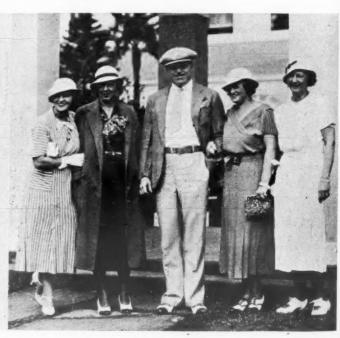




(1) W. W. Barr, Georgia Power Co.; J. F. Sutherland, Alabama Power Co.; Mrs. J. M. Walker, New York City; Mrs. "Heinie" Grow; and Mrs. Art Scaife pose for a picture. (2) Bicycling is the most popular method of locomotion in Bermuda. (3) E. Hamilton Campbell, sales promotion manager, Howard Jenks, commercial manager, and Robert Stevenson, general manager of Rex Cole, Inc., leaves the Hotel Bermudiana for an afternoon of sightseeing. Their tour ended at Elbow Beach, where they had a good swim.







(1) Mr. and Mrs. A. L. Scaife pause for refreshments in front of the Hotel Bermudiana. (2) Dick Evans (right), sales promotion manager for Ochiltree in Pittsburgh, joins a cycling party.

(3) Phil Harrison and his "harem" of New Jerseyites. Mrs. Harrison is on his left. Mrs. Mathilde Baldwin, three-year Topper, is at the extreme left.







(1) "Papa, pin a rose on me." So Adrian Black of Rex Cole complies. (2) Sales Promotion Manager Walter Daily lights a cigarette (brand not specified) for Fred Bollmeyer, publicity man from Maxon, Inc. We like this shot, don't you? (3) "Socker" Coe, himself. Wonder if his next Saturday Evening Post story will have Bermuda as its locale.

ALWAYS IMPROVING

There are no "yearly models" in PEERLESS FIN COILS. As experience dictates the PEERLESS FIN COIL is being constantly improved. NO SOLDERED RETURN BENDS

The first fin coil to eliminate the soldered return bend with its trail of corroded and leaking joints, the PEERLESS now eliminates the soldered reducing nipple on the inlet and outlet connections of the coil. The $\frac{5}{8}$ " tubing of the fin coil is itself reduced to $\frac{1}{2}$ ".

NO JOINT-NO SOLDER-NO REDUCING FITTINGS When you standardize on PEERLESS FIN COILS, you are always assured of an up-to-the-minute product.

PEERLESS ICE MACHINE CO., 515 W. 35th St., CHICAGO. III.

DAYTON V · BELTS



• There is a Dayton V-Belt for all makes and types of refrigerators. A stock is available near you. Send for price list and name of your nearest distributor.

THE DAYTON RUBBER MFG. CO. DAYTON, OHIO The world's largest manufacturer of V-Belts

Mail it in your business envelope and receive copies of

KRAMER REFRIGERATION PRODUCTS **CATALOGS**

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TRENTON AUTO RADIATOR WORKS TRENTON, N. J.

COPELAND REPAIRS — REPLACEMENTS

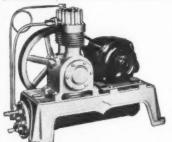
A modern laboratory service for Copeland distributors, dealers and service

organizations offering guaranteed repairs and replacements. Latest type

factory equipment used. Complete stock genuine parts. Reasonable prices.

r regulating valves...... 3.50 American Radiator expansion valves (multiple type)...... Howell special capacitor type 1/6 HP refrigerator motor,

Forty-eight hour service on repairs. Immediate shipment on replace-



Style EW-Water Cooled

With Water Cooled Head

STARR FREEZE **OUTSTANDING PERFORMANCE**

attested by satisfied users

- EVERYWHERE!

Sturdy Condensing Units from 80 to 2868 Lbs. I.M.E., and all other commercial refrigeration equipment—Wall type cases with machinery—A beautiful household line of modern, conservative styles-Write for full data.

THE STARR COMPANY

Richmond, Indiana U. S. A.

American Radiator expansion valves (household type)......\$2.50

Chicago, Illinois

QUESTIONS

Milk Coolers

No. 1486 (Factory Representative, South Africa)-"I am interested in, and would like full particulars on a milk cooling system suitable for the requirements of farmers and dairymen. The system should be equipped with a small oil or gasoline engine, provided with fast and loose pulleys. The cooling temperatures should go down to 40° F.

"We would like all particulars on all net cash sales which we could make in this territory, with best export net prices with delivery on rail in New York, including free export packing, and state sales commission allowed. This information is wanted for a large agricultural machinery house in

this country."

Answer—Refer to pages 272 and 273 of the Refrigeration Directory where all manufacturers of milk coolers are

Repossessed Electric Refrigerators

No. 1487 (Tennessee)-"Please put me in touch with a source of supply for repossessed household electric refrigerators. I am selling used refrigerators here, and can use one or two more sources of supply."

Answer-We have never attempted to compile a list of parties dealing in repossessed refrigerators, but will give the name of this inquirer upon receipt of a stamped, self-addressed

Refrigeration Books

No. 1488 (California)-"I would like some information on refrigeration books. Does Audel's 'Answers on Refrigeration' contain information relative to ice cream cabinets, condensers, etc. and various makes of electric refrigerators? Does it give informa-tion on ammonia plants? Have you any suggestions as to a better book for all-around electric refrigeration, service, and maintenance?"

Answer-Audel's book would be helpful to operators of industrial and ice-making plants, but doesn't cover household and small commercial refrigeration. For a general treatise on household electric refrigeration there is H. B. Hull's "Household Refrigeration," published by Nickerson & Collins Co., 435 N. Waller Ave., Chicago, Ill.; and for service information, the "Official Refrigeration Service Manual," published by Gernsback Publications Inc., 96 Park Place, New York, N. Y.

Statistics

No. 1489 (Manufacturer, Illinois)— "Your October, 1932, SUPPLEMENT to the Refrigeration Directory lists 48 manufacturers of electric refrigera-tors, of which 12 belong to the National Electrical Manufacturers Association. We would like to get (1) the relative percentage importance of each member of the Nema group, and (2) the percentage of total business done by the balance of the field."

Answer—(1) Relative standing of the Nema companies is not made public, due to the fact that individual sales reports of the companies are submitted to association headquarters, and totals only are released. (2) Our estimates show that non-Nema companies did 16 per cent of the total business during 1933.

Frozen Brine Cartridges

No. 1490 (Wisconsin)-"Where can I secure those 'bullets' used in cooling small ice cream cabinets. They are small triangular containers about 20 four of them around each 5-gal. can. They are taken back to the plant each day and cooled in the hardening rooms."

Answer-These can be purchased from the following: Consolidated Equipment Corp. Greenville, Mich. Frick Co., Waynesboro, Pa.

Glacifer Systems, Inc. Broad & State Sts., Kennett Square, Pa. Waltham Systems, Inc. 277 Military Road, Buffalo, N. Y.

Ammonia Machines

No. 1491 (France)-"We should like to communicate with one or two man-ufacturers of reliable, moderately priced ammonia machines operating at normal speeds. We do not want a compressor that is driven too fast. We have heard of the Baker machine,

does it operate at fairly low speeds?"

Answer—The Baker machine is driven at conservative speeds, and should meet your requirements in that respect. Address the Baker Ice Machine Co., 1518 Evans St., Omaha, Neb. Two other manufacturers of ammonia machines that might interest you are General Refrigeration Sales Co., Beloit, Wis., or H. C. Parker Mfg. Co., 2625 Santa Fe Ave., Los Angeles, Calif.

Air Conditioning

No. 1492 (Distributor, New York)-"We are seeking some information on air conditioning and humidifying equipment. We are aware that there are quite a few such machines offered for sale, also we are of the opinion that there is not too much known about air conditioning, and believe that equipment sold for that purpose is not too well developed."

Sheet Steel

No. 1493 (Exporter, New York)-"One of our Australian connections has requested us to obtain prices and particulars on steel sheets of a quality suitable for fabrication into radiator shells, and also for making such articles as ice cube trays for

household refrigerators.
"They also want full details, prices, etc. on parts required in servicing household and industrial refrigeration systems. We would appreciate your help in putting us in touch with several manufacturers of the above."

Answer-Refer to the classified products section of the Refrigeration DIRECTORY AND MARKET DATA BOOK in which manufacturers of sheet steel and all other parts and materials for refrigeration are listed.

Supply Houses

No. 1494 (Dealer, New York)-"Please advise us names and addresses of several reputable sources of supply in New York and East for such refrigeration accessories as ice cube

trays, grids, hardware, shelves, etc."

Answer—Listed below are a number companies specializing in the supply of refrigeration parts: A. E. Borden Co. 110 High St., Boston, Mass.

Iceless Refrigeration Accessories Co. 2401 Chestnut St., Philadelphia, Pa. McIntire Connector Co. 253 15th St., Newark, N. J. Melchior, Armstrong, Dessau Co. 116 Broad St., New York, N. Y. Paramount Electrical Supply Co., Inc. 58 Warren St., New York, N. Y. Refrigeration Equipment & Supply Co. 308 10th St. N. W., Washington, D. C.

Julius Frankenberg No. 1495 (Patent engineers, Wiscon-

sin)-"Do you have the present address of Julius Frankenberg, a refrigeration engineer who was located in Belleville, Ill., for several years, and moved to Chicago about a year ago, living at 3600 Pine Grove Ave. there.

"We find that he moved from this Chicago address about a year ago, and so far have been unable to locate his present address. We want to talk with him in connection with some matters on an early patent which he took out.

Answer-We have no record of Mr. Frankenberg's present address, but will be glad to forward it to you if some subscriber of the News will advise us.

Parts for France No. 1496 (French firm)—"We are in negotiation with an American factory for French distribution of their compressors. This company does not make the evaporators or other accessories and we will appreciate catalogs and prices from some American manufacturer of domestic and commercial evaporators, automatic and thermostatic controls, and filters."

Answer-See lists of companies making these parts in the REFRIGERATION DIRECTORY AND MARKET DATA BOOK.

EARNINGS

Williams Oil-O-Matic

BLOOMINGTON, Ill.—Williams Oil-O-Matic Heating Corp., manufacturer of electric refrigerators and oil burners, showed a net profit of \$49,585.18 for the fiscal year ended Oct. 31, 1933, according to a report made at the annual stockholders meeting Jan. 3 by C. U. Williams, president. This compares with a net profit of \$19,609.05 made in 1932.

Sales for 1933 showed a unit in crease of 27½ per cent over 1932, Mr. Williams declared. The 1933 statement showed total

assets of \$2,846,733.68 and total liabilities and reserve of \$77,447.14. Named to the board of directors for

the coming year were C. U. Williams W. W. Williams, Adolph Wochner, W. J. Brevitt, R. O. Ahlenius, G. B. Geiger, and L. E. Fisher.

In the year-end statement C. U. Williams, president, offered the following

"Contributing factors in our 1933 success were essentially the same as those in '31 and '32. They include a vigilant eye toward operating expenses, addition of new models to our line, and branching out into other phases of the heating field. We devoted even more than our usual time and attention to the job of seeing that major

CLASSIFIED

PAYMENT in advance is required for

advertising in this colume.

RATES: Fifty words or less, one insertion \$2.00, additional words four cents each. Three insertions \$5.00, additional words ten cents each.

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TWO and one half years as Office and Service Manager for large independent service company. Thirty-three years old and married. Capable of having all service calls handled in a prompt and efficient manner. Moderate salary acceptable if a future and permanency is assured. Now available. Best references. Box 610.

INDEPENDENT SERVICE COMPANIES

HALECTRIC Thermostat repair service. Ranco, B & B, Two dollars each, one year guarantee, prompt service. Halectric Laboratory. 1793 Lakeview Road, Cleveland, Ohio.

EQUIPMENT FOR SALE

DISTRIBUTORS & Exporters—We have a bistributions & exporters—we have a standing stock of 1,500 to 2,000 repossessed electric refrigerators of prominent makes ranging in price from \$15.00 up. Our modern plant is properly equipped to overhaul and refinish these boxes like new supplying 200 to 300 dealers a week. We protect our dealers. We do not sell retail.

COMPLETE up-to-date factory equipment for manufacturing electric refrigeration units—consisting of patents, patterns, jigs, dies, tools, fixtures, special machinery and everything necessary to go into immediate production for coming season on both single and twin cylinder units of conventional type. Assembled units and parts for additional assembly may be included in purchase. Immediate delivery. Unit is nationally known; thousands are in daily use Present organization have developed. use. Present organization have developed and are manufacturing new unit of radical design and are willing to dispose of conventional type factory equipment. Address Box 609, Electric Refrigeration News, Detroit, Mich.

markets in our set-up were manned with sufficient salesmen to realize their potentialities."

Kelvinator Corp.

DETROIT-Kelvinator Corp. reports a net loss, after all charges, deprecia-tion and interest, of \$341,935 for Octo-ber, November, and December, comprising the first quarter of the present fiscal year. This figure compares with a net loss of \$330,193.07 for the first quarter of the previous fiscal year.

George W. Mason, chairman of the board and president, points out that the statement for the first quarter does not compare unfavorably with the statement for the same period a year ago, inasmuch as the December quarter last year had the benefit of substantial shipments of new models which were lacking this year, due to the fact that the introduction of new models was deferred.

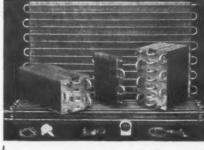
Current unfilled orders on hand indicate that January shipments this year will approximate the combined shipments of January and February of last year, according to Mr. Mason.

At the annual meeting of the stock-holders of Kelvinator Corp. held last

week the following directors were reelected: George W. Mason, H. G. Perkins, J.

S. Bache, Percy J. Ebbott, H. T. Pierpont, Ernest Stauffen, Jr., and Merlin Wiley. The directors also re-elected the

executive officers



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Manufacturers of "Genuine Detroit" Automatic and Thermostatic Expansion Valves, American Cubemakers, American Refrigeration Sections, Automatic Controls for Temperature and Pressure, Electric Valves for Refrigerant and Water Control, Thermostats, Humidistats and complete controls for Air Conditioning. Descriptive literature gladly sent upon request

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ments. Complete stock. All repairs and parts guaranteed to be free from defects in workmanship and material for one year. REFRIGERATION SERVICE LABORATORIES 418 Rush Street RACKS KOILS KOOL

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Fin Coils Diffusing Units Non-Dehydrating Coils Air-Conditioning Units

SEND FOR NEW CATALOG DESCRIBING THESE SENSATIONAL DEVELOPMENTS

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Street Address City and State

We sell the refrigerator and.....

(Please indicate other products or principal line of business.)